

FIELD VISIT REPORT
ON
“PINAKA CONSTRUCTION SOLUTION ”

Submitted in partial fulfilment of the requirement for the award of the degree of

Bachelor of Technology

In

Civil Engg

Submitted by

Roll No. 01-21

Under the Guidance of

Prof. Shital Navghare



Education to Eternity

Department of Civil Engineering

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Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad.

Year 2021-22



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FIELD VISIT REPORT
ON
“LAXMI ASSOCIATES”

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FIELD VISIT REPORT
ON
“AU CONSTRUCTION”

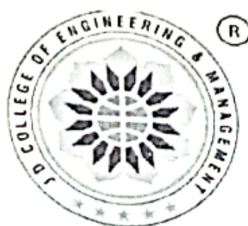
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FIELD VISIT REPORT

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“REPLACEMENT OF CEMENT BY USING LIME AND FLY ASH IN MORTAR”

**A Project Report submitted in partial fulfillment of the requirements
for the award of the degree of**

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In

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Year 2021-22

DECLARATION

We hereby declare that the work presented in this project report entitled, "REPLACEMENT OF CEMENT BY USING LIME AND FLY ASH IN MORTAR" in the subject Civil Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Shahrukh Kureshi, Department of Civil Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

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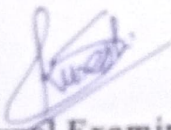


Prof. Shahrukh Kureshi
Project Guide



Prof. Atika Ingole
Head of the Department

Project Examination held on _____



Internal Examiner/ Guide



External Examiner

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ACKNOWLEDEMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B.Tech.

We owe our sincerest gratitude towards **Dr. S.V. Sonekar**, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

We also express our sincere gratitude towards **Dr. Sanjay Haridas** Dean Academics, J D College of Engineering and Management, Nagpur, for continuous support and motivation.

The constant guidance and encouragement received from **Prof. Atika Ingole** Head, Department of Civil Engineering, J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks.

We would like to thank **Prof. Tejaswini Junghare**, Project Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project.

We would like to express a deep sense of gratitude and thanks profusely to our Project Guide **Prof. Shahrukh Kureshi**, Department of Civil Engineering, J D College of Engineering & Management, Nagpur. Without his/her wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of Civil Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

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ABSTRACT

During the 20th century there has been an increase in the consumption of material admixtures by the cement, sand and concrete industries. The replacement of cement by fly ash reduces the water demand for a given slump. When fly ash is used at about 20 percent of the total cementitious, water demand is reduced by approximately 10 percent. Lime can be used as a cement replacement in concrete. There are, as there have always been, two critical issues with this type of cement replacement: the change in physical properties with respect to compressive strength and the cost analysis of the alternatives. Cement is a binding material, a substance that sets and hardens independently, and can bind other materials together. In ancient civilization the binding materials were of traditional type such as jaggery, lead, jute, rice husk etc, now in modern civilization cement is main binding materials. The use of concrete containing high volume fly-ash has recently gained popularity as a resource efficient, durable and sustainable option for variety of concrete application. The use of fly ash in concrete at proportions ranging from 30 percent to 65 percent of total cementitious binders has been studied extensively over the last twenty years. Due to some of its drawbacks we have replaced the cement by High Volume Fly ash And Lime. These two materials reduce green house gas emission proportionately and result in a more "green concrete", through reduction of energy consumptions (energy required to produce cement) and prevent the depletion of natural resources. Our aim was to achieve the target strength of M40 grade, replacing cement by high volume fly ash and lime as per the normal mix design (using 53 grade of cement). We have achieved M40 target strength by replacing cement about 75 percent of its mass by fly-ash and lime. In this context cost analysis of mix design and the properties of the design are also studied. As compared to original mix design of M40 grade concrete i.e. cent percent cement, we have reduced the cost up to 40 percent by 75 percent replacement of cement by Fly Ash and Lime.

This paper presents the experimental study undertaken to investigate the influence of partial replacement of cement by Fly Ash & Hydrated Lime and Natural Sand on the concrete compressive strength, split tensile strength and flexural strength by better understanding of chemistry of constituents of the concrete mix. The use of byproducts is an environmental friendly method of disposal of large quantities of materials that would otherwise pollute land, water and air. This study focuses on utilization of waste Pozzolona products such as Fly Ash

ANALYSIS OF MONOLITHIC DOME AND CYLINDER STRUCTURES

A Project Report submitted in partial fulfillment of the requirements
for the award of the degree of

Bachelor of Technology

In

Civil Engineering

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DECLARATION

We hereby declare that the work presented in this project report entitled, **"ANALYSIS OF MONOLITHIC DOME AND CYLINDER STRUCTURES"** in the subject **Civil Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Tejaswini Junghare, Department of Civil Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

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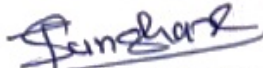
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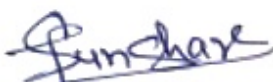

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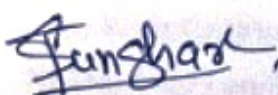
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“A COMPARATIVE ANALYSIS OF CONVENTIONAL CONCRETE WITH STEEL FIBER CONCRETE”

**A Project Report submitted in partial fulfilment of the requirements
for the award of the degree of**

Bachelor of Engineering

In

Civil Engineering

Submitted by

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Mr. Dravid Shende

Mr. Mahesh Rathod

Mr. Sahil Rodge

Mr. Mayur Suryawanshi

Mr. Shrikant Gaikwad

Mr. Shailesh Y. Lade

Under the Guidance of

Prof. Tejaswini S. Junghare

DEPARTMENT OF CIVIL ENGINEERING



Education to Eternity

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Year 2018-22

DECLARATION

We hereby declare that the work presented in this project report entitled, "A COMPARATIVE ANALYSIS OF CONVENTIONAL CONCRETE WITH STEEL FIBER CONCRETE" in the subject **Civil Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Prof. Tejaswini S. Junghare**, Department of Civil Engineering, **J D College of Engineering and Management, Nagpur**. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

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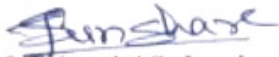
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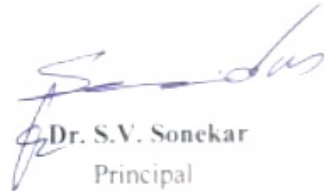
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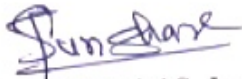
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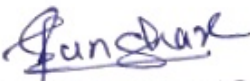


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DESIGN OF ROAD PAVEMENT USING CRUMB RUBBER AS A FINE AGGREGATE

In partial fulfilment of the criteria for the degree of Bachelor in technology

CIVIL ENGINEERING

Submitted by

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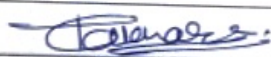
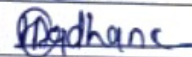
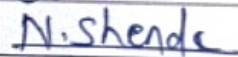
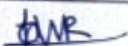

Year 2018-22

DECLARATION

We hereby, declare that the work presented in this thesis entitled "**DESIGN OF ROAD PAVEMENT USING CRUMB RUBBER AS A FINE AGGREGATE**" was carried out by us under the supervision of **Prof. Nilesh Pal**, Assistant Professor. The work has been carried out at **J D College of Engineering & Management, Nagpur** and is being submitted for the award of the degree of Bachelor in Technology in **CIVIL ENGINEERING** in the Faculty of Engineering & Technology of J D College of Engineering and Management, Nagpur during academic year 2018-22. This work or any part of this work is based on original research and has not been submitted by us to any University Institution for the award of degree.

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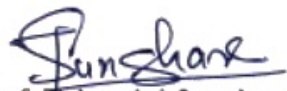
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CERTIFICATE

It is certified that this project report "**DESIGN OF ROAD PAVEMENT USING CRUMB RUBBER AS A FINE AGGREGATE**" is the bonafide work of Aishwarya Barsagade, Roshani Dakhare, Harshal Gaidhane, Nikhil Shende, Himanshu Ramtekkar and Sonali Dhoke who carried out the practical work under my supervision. In partial fulfilment of the criteria for the degree of Bachelor in Technology in **Civil Engineering** at J D College of Engineering & Management, Nagpur affiliated **Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad** during the academic year 2018-2022.



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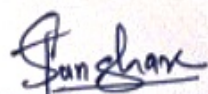
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ACKNOWLEDGMENT

This project work is one of the major milestones in our journey of learning during the session.

We express a deep sense of gratitude towards **Dr. S. V. Sonekar**, Principal, JD College of Engineering and Management, Nagpur for providing platform & facilities.

We also express a deep sense of gratitude towards **Dr. Sanjay Haridas**, Dean Academics, JD College of Engineering and Management, Nagpur for their valuable information and motivation.

Our special thanks go to **Prof. Atika Ingole**, Head of Civil Department, JD College of Engineering and Management, Nagpur for their support and guidance from time to time, also to carrying out project work.

We would like to thanks **Prof. Tejaswini S. Junghare**, Project Co-Ordinator, JD College of Engineering and Management, Nagpur for ideal support and guidance, which help in completing this task through various stages.

We wish to express our sincere thanks and gratitude to our Project guide, **Prof. Nilesh Pal**, for his guidance, constant inspiration, continue support and combination of technical talent and scientific understanding is treasure that has contributed greatly to the quality of this research work throughout the tenure of this project. Without his wise counsel, it would have been impossible to complete the project in this manner.

We would like to thanks the Departmental Research Committee for their valuable suggestion and healthy criticism during our project work. We take the opportunity to express our gratitude towards all faculty members of Civil Department, JD College of Engineering and Management, Nagpur for their intellectual support throughout the course of the work.

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ABSTRACT

The use of waste material like crumb rubber in road construction is being increasingly encouraged, so to reduce the environmental impact. The rubber tire waste increasing rapidly due to rise in automobiles/vehicles. Tires from vehicles is made up of synthetic crumb rubber. Disposal of these rubber is a serious environmental problem. This waste rubber can be used to partially replaced the conventional material which is lead to improve the mechanical characteristics of road. Crumb rubber is a recycled rubber which is produced from automotives scrape tires. During its recycling process, steel and tire cord are removed, which leaves tire rubber with the granular consistency.

Concrete is a composite material consist of cement, water, fine aggregate and coarse aggregate. High strength concrete was prepared of w/c 0.55. The Concrete mix design is calculated using all the required values such as specific gravity of materials and water cement ratio.

In this present study a comparison is carried out between the conventional concrete blocks and the advanced concrete blocks which is made-up of partially replacing fine aggregate with crumb rubber, i.e., 10% and 20% of unit weight of sand. Performed laboratory test on the material such as bulking of sand, fineness modulus of cement, aggregate impact test, abrasion test on coarse aggregate, slump cone test for workability of fresh concrete. Casted the cubes of standard size as per IS 456, As per the test result, we found that over the 10% replacement of fine aggregate with crumb rubber provide 60% less strength as compare to conventional concrete blocks.

A Project Report
on
**“DESIGN OF FLY ASH BRICKS WITH PARTIAL
REPLACEMENT OF TEXTILE WASTE”**

submitted in partial fulfillment of the requirements for the award of the
degree of

Bachelor of Technology

In

Civil Engineering

Submitted by

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Mr. Hritik R. Bagde

Ms. Komal T. Mogare

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**Under the Guidance of
Prof. Shital A. Navghare**



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Year 2018-2022

DECLARATION

We hereby declare that the work presented in this project report titled, "**Design of Fly Ash Bricks with Partial Replacement of Textile Waste**" in the subject of **Civil Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Prof. Shital A. Navghare**, Department of Civil Engineering, **J D College of Engineering and Management, Nagpur**. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

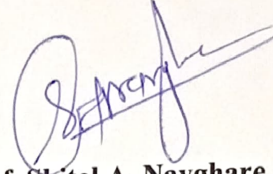
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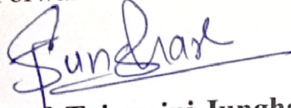
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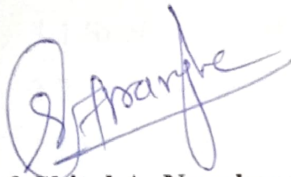


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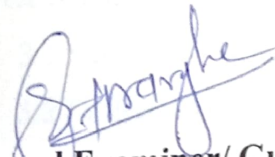


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ACKNOWLEDGMENT

We express our sincere gratitude, for allowing us to work on the project during our final year of B.Tech.

We owe our sincerest gratitude to **Dr. S.V. Sonekar**, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

We also express our sincere gratitude towards **Dr. Sanjay Haridas** Dean of Academics, JD College of Engineering and Management, Nagpur, for continuous support and motivation.

The constant guidance and encouragement received from **Prof. Atika Ingole** Head, Department of Civil Engineering, J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks.

We would like to thank **Prof. Tejaswini Junghare**, Project Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of the project.

We would like to express a deep sense of gratitude and thanks profusely to our Project Guide **Prof. Shital A. Navghare**, Department of Civil Engineering, J D College of Engineering & Management, Nagpur. Without his/her wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work.

We express gratitude to other faculty members of the Civil Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

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ABSTRACT

The large increase in population has increased the need for new and efficient building materials. In order to meet this demand, some industrial wastes have been used in the production of construction materials. As per the research, the textile industry is the second largest polluting industry. A large amount of cotton micro dust is accumulated in the textile industry. The cotton micro dust is less ignited and causes serious environmental and health hazards. Cotton micro dust is a solid waste that is generated from the spinning and weaving process. This is used to dump open to the atmosphere and there is no use almost 5% of global landfills are dumped using textile waste. Bricks are widely used construction and building material around the world. The present project report is about developing bricks manufactured from waste materials that are present in the environment without causing any damage to the environment. The main objective is to prepare insulating bricks by using waste materials and to conduct field and laboratory tests on them. Traditional bricks are made of clay or cement. However, it has environmental deficiencies as causes high energy consumption and carbon dioxide emission. In addition, excessive and senseless use of non-renewable natural resources around the world causes social, economic, and environmental damage. For these reasons, we have used waste materials like cotton dust in brick production to contribute to sustainable development by optimizing the environment-material economy.

“EXPERIMENTAL INVESTIGATION OF BAMBOO SPECIES ON BEAM”

**A Project Report submitted in partial fulfillment of the requirements
for the award of the degree of**

Bachelor of Technology

In

Civil Engineering

Submitted by

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Mr. Santosh Bhade

Miss. Amreen Qureshi

Miss. Renu Sahani

Miss. Hritika Deshbhratar

Mr. Suraj Shambharkar

Under the Guidance of

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Lonere, Raigad.

Year 2018-22

Declaration

We hereby declare that the work presented in this project report entitled, "EXPERIMENTAL INVESTIGATION OF BAMBOO SPECIES ON BEAM" in the subject Civil Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Prof. Atika Ingole**, Department of Civil Engineering, **J D College of Engineering and Management, Nagpur**. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

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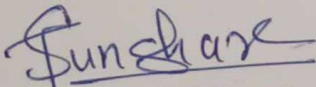
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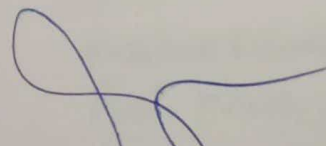
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Head of the Department
Department of Civil Engineering

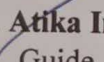



Dr. S.V. Sonekar
Principal
Principal

J.D. College of Engineering & Management
Khandala, Katol Road


CERTIFICATE OF APPROVAL

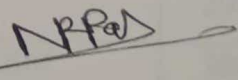
This is to certify that the Project Report on "EXPERRIMENTAL INVESTIGATION OF BAMBOO SPECIES ON BEAM" is approved work done by **Miss.Pradnya Sonone,Mr. Santosh Bhade,Miss. Amreen Qureshi,Miss. Renu Sahani,Miss. Hritika Deshbhratar,Mr.Suraj Shambharkar** in partial fulfillment of the requirements for the award of the degree of **Bachelor of Technical Universities in Civil Engineering** at J D College of Engineering & Management, Nagpur affiliated to **Dr. Babasaheb Ambedkar Technical University,Lonere,Raigad.** during the academic year 2018-2022.


Prof. Atika Ingole
Guide


Prof. Atika Ingole
Head of the Department

Project Examination held on 08.07.2022


Internal Examiner/ Guide
Prof. Atika Ingole


External Examiner
Prof. Nilesh patil.

ACKNOWLEDEMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B.Tech.

We owe our sincerest gratitude towards **Dr. S.V. Sonekar**, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

We also express our sincere gratitude towards **Dr. Sanjay Haridas** Dean Academics, J D College of Engineering and Management, Nagpur, for continuous support and motivation. The constant guidance and encouragement received from **Prof. Atika Ingole** Head, Department of Civil Engineering, J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks.

We would like to thank **Prof Tejaswini Junghare**, Project Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project.

We would like to express a deep sense of gratitude and thanks profusely to our Project Guide **Prof. Atika Ingole**, Department of Civil Engineering, J D College of Engineering & Management, Nagpur. Without his/her wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of Civil Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.



J D College of Engineering and Management Nagpur

2018-2022

ABSTRACT

Bamboo has a long and well-established tradition as a building material throughout the world's tropical and sub-tropical regions. It is widely used for many forms of construction, in particular for housing in rural areas. Bamboo is a renewable and versatile resource, characterized by high strength and low weight, and is easily worked using simple tools. It is widely recognized as one of the most important non-timber forest resources due to the high socio-economic benefits from bamboo-based products. It is estimated that there are 1200 species growing in about 14.5 million hectares area. Most of them grow in Asia, Africa and Latin America.

The research deals with the Experimental investigation of bamboo , the Consumption of Bamboo reinforcement as replacement of steel reinforcement is gaining immense import today, mainly on account of advance in the economical aspect mutual with ecological Benefits .

India has one third of the world poor population living below the poverty line. Since the Population is on the rise the demand for basics needs increases.

Bamboo is a giant woody grass that grow rapidly in the tropics where it widely Cultivated Bamboo proves to provide good reinforcement and eco-friendly. Moreover it is very economic. in this research carried out on bamboo reinforced concrete is given with emphasis on experimental work. To study the effect of replacement of steel reinforcement by Bamboo reinforcement Design have been conducted on beam size of 700mm x 150 x 150mm.

Keywords : Bamboo, Reinforcement, Economical, Strength.

Anti-Theft Alert System for Smart Vehicles

A Project Report submitted in partial fulfillment of the requirements
for the award of the degree of

Bachelor of Technology

in

Computer Science & Engineering

Submitted by

Mr. Sanket C. Meshram

Ms. Dhanashri M. Gulhane

Mr. Jagdish U. Kore

Mr. Harshad D. Nikhare

Ms. Aditi M. Salodkar

Under the Guidance of

Prof. Madhuri B. Babar



Education to Eternity

Department of Computer Science & Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.



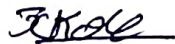
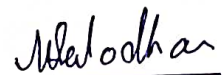
Year 2021-2022

DECLARATION

We hereby declare that the work presented in this project report entitled, "Anti-Theft Alert System for Smart Vehicles" in the subject Computer Science & Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Madhuri B. Babar, Department of Computer Science & Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.


Place: Nagpur
Date: 06/08/2022

Name of Students


Mr. Sanket C. Meshram 
Ms. Dhanashri M. Gulhane 
Mr. Jagdish U. Kore 
Mr. Harshad D. Nikhare
Ms. Aditi M. Salodkar 

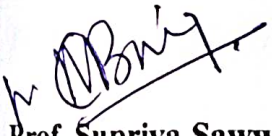
CERTIFICATE

This is to certify that the project report entitled, "Anti-Theft Alert System for Smart Vehicles" in the subject **Computer Science & Engineering** branch in the faculty of Science and Technology submitted by Mr. Sanket C. Meshram, Ms. Dhanashri M. Gulhane, Mr. Jagdish U. Kore, Mr. Harshad D. Nikhare & Ms. Aditi M. Salodkar to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.


Prof. Madhuri B. Babar
Project Guide
Dept. of CSE-IT

Forwarded to:


Prof. Bhagyashree Madan
Project Coordinator


Prof. Supriya Sawwashere
Head of the Department
CSE-IT




Dr. Shrikant V. Sonekar

Principal
Principal
J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on "Anti-Theft Alert System For Smart Vehicles" is approved work done by

Mr. Sanket C. Meshram
Ms. Dhanashri M. Gulhane
Mr. Jagdish U. Kore
Mr. Harshad D. Nikhare
Ms. Aditi M. Salodkar

in partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology** in **Computer Science & Engineering** at J D College of Engineering & Management, Nagpur affiliated to **Dr. Babasaheb Ambedkar Technological University, Lonere** during the academic year 2021-2022.



Prof. Madhuri B. Babar
Guide

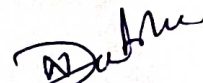


Prof. Supriya Sawwashere
Head of the Department

Project Examination held on 09/07/2022



Internal Examiner/ Guide



External Examiner

Data Analysis & Visualization of Sales Data Using Artificial Intelligence

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Technology

In

Computer Science & Engineering

Submitted By

Tanmay V. Sakharkar

Ritik U. Zilpe

Akshay S. Shete

Akshaykumar V. Talanje

Nandini N. Agrawal

Under the Guidance of

Prof. Swati B. Raut



Education to Eternity

Department Of

Computer Science & Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere

Year 2021-22

DECLARATION

We hereby declare that the work presented in this project report entitled, “**Data Analysis & Visualization of Sales Data Using Artificial Intelligence**” in the subject **Computer Science & Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Swati B. Raut, Computer Science & Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

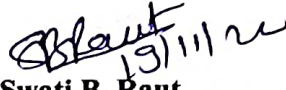
Place: Nagpur

Name of Students


Tanmay V. Sakharkar Tanmay
Ritik U. Zilpe Ritik U. Zilpe
Akshay S. Shete Akshay
Akshaykumar V. Talanje A. Talanje
Nandini N. Agrawal N. Agrawal

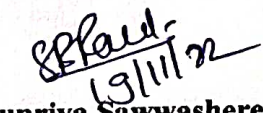
CERTIFICATE

This is to certify that the project report entitled, "Data Analysis & Visualization of Sales Data Using Artificial Intelligence" in the subject Computer Science & Engineering in the faculty of Science and Technology submitted by Tanmay V. Sakharkar, Ritik U. Zilpe, Akshay S. Shete, Akshaykumar V. Talanje, Nandini N. Agrawal to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor Of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.


Prof. Swati B. Raut
Department of CSE

Forwarded to:

For 
Prof. Bhagyashree Madan
Project Coordinator

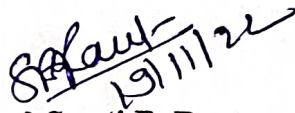
for 
Prof. Supriya Sawwashere
Head of the Department
Computer Science & Engineering





Dr. S.V. Sonekar
Principal
Principal
J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501


CERTIFICATE OF APPROVAL


This is to certify that the Project Report on "Data Analysis & Visualization of Sales Data Using Artificial Intelligence" is approved work done by Tanmay V. Sakharkar, Ritik U. Zilpe, Akshay S. Shete, Akshaykumar V. Talanje, Nandini N. Agrawal in partial fulfillment of the requirements for the award of the degree of Bachelor Of Technology in Computer Science & Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere during the academic year 2021-2022.


Prof. Swati B. Raut
Guide


Prof. Supriya Sawwashere
Head of the Department

Project Examination held on 09/07/2022


Internal Examiner/ Guide


External Examiner

DEVELOPMENT OF PREDICTION AND DETECTION SYSTEM FOR HEART DISEASE PROBLEMS USING MACHINE LEARNING

**A Project Report submitted in partial fulfillment of the requirements
for the award of the degree of**

Bachelor of Technology

In

Computer Science and Engineering

Submitted by

Ms. Sonali Wakodikar

Ms. Aanchal Kashyap

Ms. Geeta Bhandarkar

Ms. Payal Paunikar

Ms. Manisha Dharmik

Under the Guidance of

Dr/Prof. S. V. Sonekar



Education to Eternity

Computer Science Engineering Department

J D College of Engineering and Management,

Nagpur-441501 An Autonomous Institute, with NAAC "A" Grade

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere

Year 2021-2022

DECLARATION

We hereby declare that the work presented in this project report entitled, **“Development Of Prediction And Detection System For Heart Disease Problems Using Machine Learning”** in the subject of Computer Science and Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of DR. S. V. SONEKAR Computer Science and Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree diploma, or certificate course.

Place: Nagpur

Date:

Name of Student/Students


Ms. Sonali Wakodikar Sonali
Ms. Aanchal Kashyap Aanchal
Ms. Geeta Bhandarkar Geeta
Ms. Payal Paunikar Payal
Ms. Manisha Dharmik

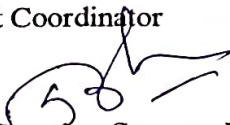
CERTIFICATE

This is to certify that the project report entitled, "**Development Of Prediction And Detection System For Heart Disease Problem Using Machine Learning**" in the subject **Computer Science and Engineering** in the faculty of Science and Technology submitted by **Sonali Wakodikar, Aanchal Kashyap, Geeta Bhandarkar, Payal Paunikar, Manisha Dharmik** to **Dr. Babasaheb Ambedkar Technological University, Lonere** for the award of the degree of **Bachelor of Technology** is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Dr. S. V. Sonekar
Project Guide
Dept. of Computer Science
Engineering

Forwarded to:


**Prof. Bhagyashree
Madan**
Project Coordinator

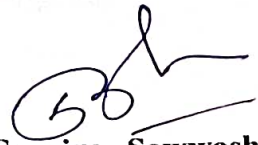

Prof. Supriya Sawwashere
Head of the Department
CSE-IT

Dr. S. V. Sonekar
Principal
JDCEM

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on "Development Of Prediction And Detection System For Heart Disease Problem Using Machine Learning" is approved work done by Ms. Sonali Wakodikar, Ms. Aanchal Kashyap, Ms. Geeta Bhandarkar, Ms. Payal Paunikar, Ms. Manisha Dharmik In partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Computer Science and Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere during the academic year 2021-2022.

Dr. S. V. Sonekar
Project Guide


Prof. Supriya Sawwashere
Head of the Department

Project Examination held on _____


Internal Examiner/Guide

External Examiner

HELMET DETECTION USING MACHINE LEARNING AND AUTOMATIC LICENSE PLATE RECOGNITION

A Project Report submitted in the partial fulfillment of the requirements
for the award of the degree of

Bachelor of Technology
In
Computer Science and Engineering

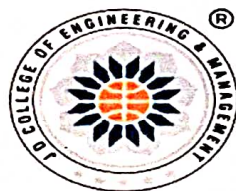
Submitted by

Mr. Kundankumar Rahangdale

Mr. Nachiket Gondane

Ms. Shejal Dhenge

Under the Guidance of
Prof. Rahul Bambodkar



Education to Eternity

Department of Computer Science and Engineering

J D College of Engineering and Management, Nagpur – 441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2021-22

DECLARATION

We hereby declare that the work presented in this project report entitled, "**Helmet detection using machine learning and automatic license plate recognition**" in the subject **Computer Science and Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Prof. Rahul Bambodkar**, Computer Science and Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place:

Name of the students

Date:

Mr. Kundankumar Rahangdale

Mr. Nachiket Gondane

Ms. Shejal Dhenge

CERTIFICATE

This is certify that the project report entitled, "Helmet detection using machine learning and automatic license plate recognition" in the subject Computer Science and Engineering in the faculty of Science and Technology submitted by Mr. Kundankumar Rahangdale, Mr. Nachiket Gondane, Ms. Shejal Dhenge to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.



Prof. Rahul Bambodkar

Project Guide

Dept. Of CSE-IT

Forwarded to:



Prof. Bhagyashree Madan

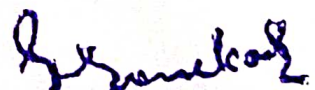
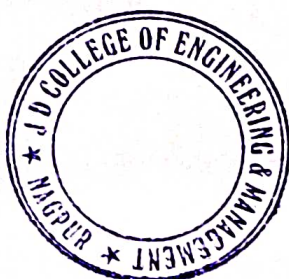
Project Coordinator



Prof. Supriya Sawwashere

Head of the Department,

CSE-IT



Dr. Shrikant V. Sonekar

Principal

Principal

J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on "**Helmet detection using machine learning and automatic license plate recognition**" is approved work done by

Mr. Kundankumar Rahangdale

Mr. Nachiket Gondane

Ms. Shejal Dhenge

In partial fulfillment of the requirements for the award of the degree of **Bachelor of Engineering in Computer Science and Engineering** at **J D College of Engineering & Management, Nagpur** affiliated to **Dr. Babasaheb Ambedkar Technological University, Lonere** during the academy year 2021-2022.



Prof. Rahul Bambodkar

Project Guide



Prof. Supriya Sawwashere

Head of the Department

Project Examination held on _____



Internal Examiner / Guide

External Examiner

IMPLEMENTATION OF ANDROID BASED SMART WALLET

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Technology

In

Information Technology

Submitted by

**Mr. Sahil Sarode
Ms. Shruti Dongre
Mr. Ritesh Meshram
Mr. Aniket Bhoyar**

Under the Guidance of

Prof. Jolly Nikhade



Education to Eternity

Information Technology

J D College of Engineering and Management Nagpur - 441501

(An Autonomous Institute, with NAAC "A" Grade)

**Affiliated to Dr. Babasaheb Ambedkar Technological University
Year 2021-2022**

DECLARATION

We hereby declare that the work presented in this project report entitled, **"Implementation of Android Based Smart Wallet"** in the subject **Information Technology & Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Prof. Jolly Nikhade**, Department of IT, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date:

Name of Students

Mr. Sahil Sarode

Ms. Shruti Dongre

Mr. Ritesh Meshram

Mr. Aniket Bhoyar

CERTIFICATE

This is certify that the project report entitled "Implementation of Android Based Smart Wallet" in the subject **Information Technology & Engineering** in the faculty of Science and Technology submitted by **Mr. Sahil Sarode, Ms Shruti Dongre, Ritesh Meshram & Aniket Bhoyar** to **Dr. Babasaheb Ambedkar Technological University, Lonere** for the award of the degree of **Bachelor of Technology** is a bonafide record of work carried by them under my supervision. The contents of Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.



Prof. Jolly Nikhade
Project Guide
Dept. Of CSE - IT

Forwarded to :



Prof. Bhagyashree Madan
Project Coordinator



Prof. M. M. Baig
Head of the Department IT



Dr. S. V. Sonekar
Principal



Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on **"Implementation of Android Based Smart Wallet"** is approved work done by

Sahil Sarode

Shruti Dongre

Ritesh Meshram

Aniket Bhoyar

In partial fulfillment of the requirements of the award of the degree of **Bachelor of Technology in Information Technology** at **J D College of Engineering & Management, Nagpur** affiliated to **Dr. Babasaheb Ambedkar Technological University, Lonere** during the academic year of 2021-22

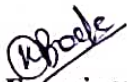


Prof. Jolly Nikhade
Project Guide



Prof. M.M. Baig
Head of Department

Project Examination held on _____



Internal Examiner/ Guide

External Examiner

IOT BASED SMART E-WASTE MANAGEMENT SYSYEM

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Technology

In

Computer Science Engineering

Submitted by

Ms. Pallavi Bansod

Ms. Sonali Shende

Mr. Rajat Gajbhiye

Ms. Sujata Sardare

Mr. Aslam Ghodke

Under the Guidance of

Prof. Supriya Sawwashire



Education to Eternity

Department of Computer Science Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2021-2022

DECLARATION

We hereby declare that the work presented in this project report entitled, **“IoT Based Smart E-Waste Management System”** in the subject **Computer Science Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Prof. Supriya Sawwashere**, Department of **Computer Science Engineering**, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place:

Date:

Name of Students

Ms. Pallavi Bansod

Bansod

Ms. Sonali Shende

Mr. Rajat Gajbhiye

Rajbhiye

Ms. Sujata Sardare

Mr. Aslam Ghodke

CERTIFICATE

This is to certify that the project report entitled, "IoT Based Smart E-Waste Management System" in the subject Computer Science Engineering in the faculty of Science and Technology submitted by Ms. Pallavi Bansod, Ms. Sonali Shende, Mr. Rajat Gajbhiye, Ms. Sujata Sardare, Mr. Aslam Ghodke to Dr. Babasaheb Ambedkar Technological University, Lonere. for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.



Prof. Supriya Sawwashere
Department of
Computer Science Engineering

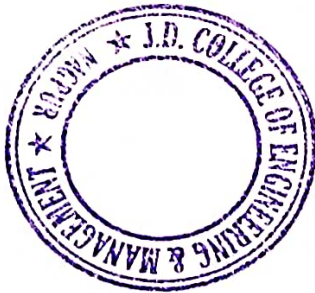
Forwarded to:



Prof. Bhageshree Madan
Project Coordinator
Department of Computer Science Engineering



Prof. Supriya Sawwashere
Head of the Department
Computer Science Engineering



Dr. S. V. Sonekar
Principal

Principal
J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

CERTIFICATE OF APPROVAL

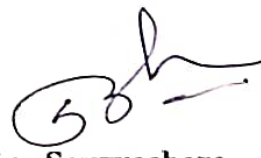
This is to certify that the Project Report on IOT BASED SMART E-WASTE MANAGEMENT SYSTEM is approved work done by

Ms. Pallavi Bansod
Ms. Sonali Shende
Mr. Rajat Gajbhiye
Ms. Sujata Sardare
Mr. Aslam Ghodke

in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Computer Science Engineering at J D College of Engineering & Management, Nagpur. Dr. Babasaheb Ambedkar Technological University, Lonere during the academic year 2021-2022.



Prof. Supriya Sawwashere
Guide



Prof. Supriya Sawwashere
Head of the Department

Project Examination held on _____



Internal Examiner/ Guide



External Examiner

IOT BASED TRAFFIC CONTROL MANAGEMENT

A Project Report submitted in partial fulfillment of the requirements

For the award of the degree of

Bachelor of Technology

In

Computer Science & Engineering

Submitted by

Mr. Shashank C. Verma

Mr. Sudhanshu M. Purushe

Ms. Amisha P. Dhabekar

Mr. Aniket S. Jaiswal

Ms. Tanuja L. Bais

Under the Guidance of

Dr. S. V. Sonekar



Education to Eternity

Department of Computer Science & Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere

Year 2021-2022

DECLARATION

We hereby declare that the work presented in this project report entitled, **"IoT Based Traffic Control Management"** in the subject **Computer Science & Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Dr. S. V. Sonekar, Department of Computer Science & Engineering, J D College of Engineering and Management, Nagpur.** This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date:

Name of Students

Mr. Shashank C. Verma

Mr. Sudhanshu M. Purushe

Ms. Amisha P. Dhabekar

Mr. Aniket S. Jaiswal

Ms. Tanuja L. Bais

Shashank

Sudhanshu

Amisha

Aniket

Tanuja

CERTIFICATE

This is to certify that the project report entitled, "IoT Based Traffic Control Management System" in the subject Computer Science & Engineering in the faculty of Science and Technology submitted by Mr. Shashank C. Verma, Mr. Sudhanshu M. Purushe, Ms. Amisha P. Dhabekar, Mr. Aniket S. Jaiswal, Ms. Tanuja L. Bais to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a Bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Dr. S. V. Sonekar

Department of
Computer Science & Engineering

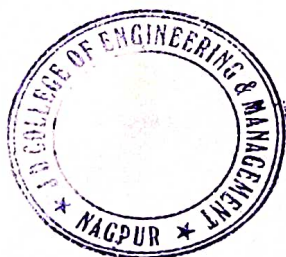
Forwarded to:



Prof. Supriya Sawwashere
Head of the Department
Computer Science & Engineering



Prof. Bhagyashree Madan
Project Coordinator
Department of Computer Science & Engineering



Dr. S. V. Sonekar
Principal of JDCOEM
Principal

J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on **IOT BASED TRAFFIC CONTROL MANAGEMENT** is approved work done by

Mr. Shashank C. Verma
Mr. Sudhanshu M. Purushe
Ms. Amisha P. Dhabekar
Mr. Aniket S. Jaiswal
Ms. Tanuja L. Bais

in partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology** in **Computer Science & Engineering** at J D College of Engineering & Management, Nagpur.
Dr. Babasaheb Ambedkar Technological University, Lonere during the academic year 2021-2022.



Dr. S. V. Sonekar

Project Guide
Principal

J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501



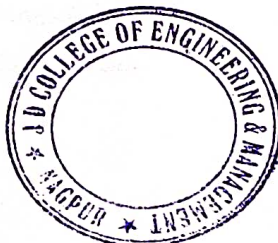
Prof. Supriya Sawwashere

Head of the Department

Project Examination held on _____

Internal Examiner/ Guide

External Examiner



“KNOWLEDGE MANAGEMENT USING BLOCK CHAIN- ADHAR BASED VOTING SYSTEM”

A Project Report Submitted in partial fulfillment of the requirements for
the award of the degree of

Bachelor in Technology

In

Computer Science Engineering

Submitted by

Ms. Achal K. Bawane

Ms. Bhagyashri G. Tekade

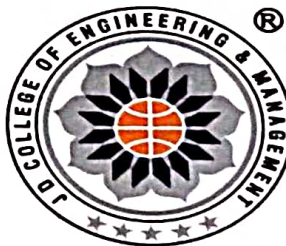
Ms. Kishori V. Kotangle

Ms. Payal S. Fuke

Mr. Harsh A. Bagde

Under the Guidance of

Prof. Rahul Bambodkar



Education to Eternity

DEPARTMENT OF CSE-IT

J D College of Engineering and Management, Nagpur-441501

An Autonomous Institute, with NAAC "A" Grade

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere

Year 2021-2022

DECLARATION

We hereby declare that the work presented in this project report entitled, **“Knowledge Management Using block chain- Adhar Based voting System”** in the subject **Computer Science Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Prof. Rahul Bambodkar**, CSE-IT department, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date:

Name of students

Ms. Achal K. Bawane

Ms. Bhagyashri G. Tekade

Ms. Kishori V. Kotangle

Ms. Payal S. Fuke

Mr. Harsh A. Bagde

CERTIFICATE

This is to certify that the project report titled, "Knowledge Management using block chain- Adhar based Voting System" in the subject Computer Science Engineering in the faculty of Science and Technology submitted by Achal K. Bawane, Bhagyashri G. Tekade, Kishori V. Kotangle, Payal S. Fuke and Harsh A. Bagde to Dr. Babasaheb Amedkar Technological University, Lonere Raigad for the award of degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.



Prof. Rahul Bambodkar

Department of CSE-IT

Forwarded to:-



Prof. Bhagyashri Madan

Project Coordinator



Prof. Supriya Sawwashere

Head of the Department,

CSE-IT

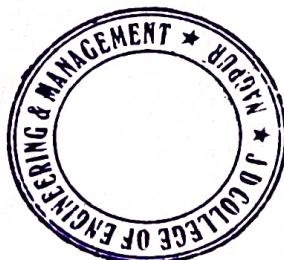


Dr. S.V. Sonekar

Principal

Principal

J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501



CERTIFICATE OF APPROVAL

This is to certify that the Project Report on "KNOWLEGDE MANAGEMENT USING BLOCK CHAIN ADHAR BASED VOTING SYSTEM" is approved work done by

Ms. Achal K. Bawane

Ms. Bhagyashri G. Tekade

Ms. Kishori V. Kotangle

Ms. Payal S. Fuke

Mr. Harsh A. Bagde

is partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Computer Science Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere Raigad during the academic year 2021-2022.



Prof. Rahul Bambodkar

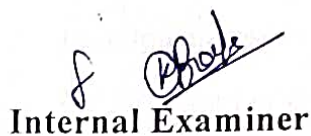
Guide



Prof. Supriya Sawwashere

Head of Department

Project Examination held on 08/07/2022



Internal Examiner

External Examiner

ONLINE BLOOD & PLASMA DONATION USING WEB APPLICATION

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Technology

In

Computer Science & Engineering

Submitted by

Sonam Hemane

Praveen Shukla

Shoaib Sheikh

Prem Jawane

Tina Nayar

Under the Guidance of

Prof. Bhagyashree Madam



Education to Eternity

Department Of Computer Science & Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere

Year 2021-22

DECLARATION

We hereby declare that the work presented in this project report entitled, "**Online Blood and Plasma Donation**" in the subject **Computer Science & Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Prof. Bhagyashree Madan**, Computer Science And Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place:

Date :

Sonam Hemane

Praveen Shukla


Shoaib Sheikh

Prem Jawane

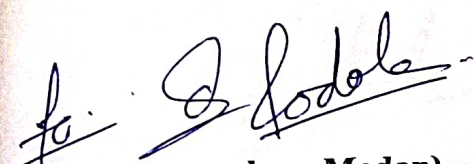
Tina Nayar

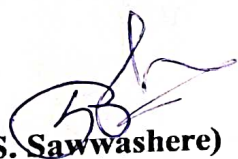
CERTIFICATE

This is to certify that the project report entitled, "Online Blood and Plasma Donation" in the subject **Computer Science & Engineering** in the faculty of Science and Technology submitted by **Sonam Hemane, Praveen Shukla, Shoaib Sheikh, Prem Jawane, Tina Nayar** to **Dr. Babasaheb Ambedkar Technological University, Lonere** for the award of the degree of **Bachelor in Technology** is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

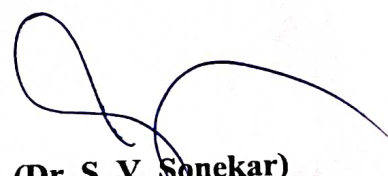

(Prof. Bhagyashree Madan)
Computer Science & Engineering

Forwarded to:


(Prof. Bhagyashree Madan)
Project Coordinator

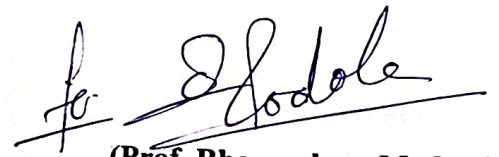

(Dr. S. S. Sawwashere)
Head of the Department
Computer Science & Engineering




(Dr. S. V. Sonekar)
Principal
Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

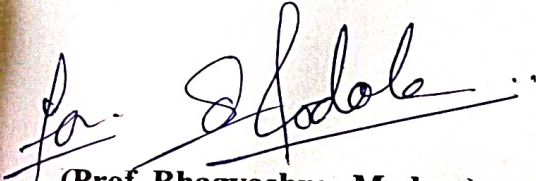
CERTIFICATE

This is to certify that the project report entitled, "Online Blood and Plasma Donation" in the subject **Computer Science & Engineering** in the faculty of Science and Technology submitted by **Sonam Hemane, Praveen Shukla, Shoaib Sheikh, Prem Jawane, Tina Nayar** to **Dr. Babasaheb Ambedkar Technological University, Lonere** for the award of the degree of **Bachelor in Technology** is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.



(Prof. Bhagyashree Madan)
Computer Science & Engineering

Forwarded to:



(Prof. Bhagyashree Madan)
Project Coordinator



(Dr. S. S. Sawwashere)

Head of the Department

Computer Science & Engineering

(Dr. S. V. Sonekar)

Principal

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on **Online Blood and Plasma Donation** is approved work done by

Sonam Hemane

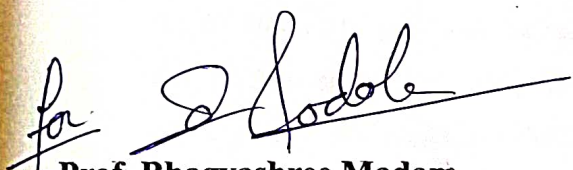
Praveen Shukla

Shoaib Sheikh

Prem Jawane

Tina Nayar

in partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology in Computer Science & Engineering** at **J D College of Engineering & Management, Nagpur** affiliated to **Dr. Babasaheb Ambedkar Technological University, Lonere** during the academic year 2021-2022.



Prof. Bhagyashree Madam
Guide



Dr. S. S. Sawwashere
Head of the Department

Project Examination held on _____

Internal Examiner/ Guide

External Examiner

ONLINE FOOD ORDERING MANAGEMENT SYSTEM

A Project Report submitted in partial fulfillment of the requirements

For the award of the degree of

Bachelor of Technology

In

Specialization

Computer Science and Engineering

Submitted by

1)Arti Bhimte

2)Kavish Humane

3)Anand Jichkar

Under the Guidance of

Prof. Sweta A. Raut



Education to Eternity

Department of Computer Science and Engineering

J D College of Engineering and Management, Nagpur-441501

An Autonomous Institute, with NAAC "A" Grade

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere

Year 2021-22

DECLARATION

We hereby declare that the work presented in this project report entitled, "Online Food Ordering Management System (Foodies)" in the subject CSE in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Sweta A. Raut CSE/IT Department, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date:

Name of Students


- 1) Arti Bhimte *Arti*
- 2) Kavish Humane
- 3) Anand Jichkar


CERTIFICATE

This is to certify that the project report entitled, "Online Food Ordering Management System (Foodies)" in the subject Computer Science and Engineering in the faculty of Science and Technology submitted by Arti Bhimte, Kavish Humane, Anand Jichkar to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.


Prof. Sweta A. Raut

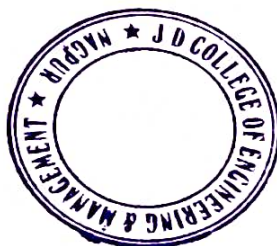
Department of
Computer Science Engineering

Forwarded to: 
Prof. Bhagyashree Madan
Project Coordinator
Department of Computer Science Engineering


Prof. Supriya Sawwashere
Head of the Department
Computer Science Engineering


Dr. S. V. Sonekar

Principal
Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501



CERTIFICATE OF APPROVAL

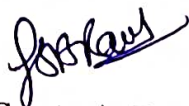
This is to certify that the Project Report on **Online Food Ordering Management System (Foodies)** is approved work done by

Ms. Arti Bhimte

Mr. Kavish Humane

Mr. Anand Jichkar

in partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology in Computer Science Engineering** at **J D College of Engineering & Management, Nagpur** an Autonomous institute with NAAC "A" Grade affiliated to **Dr. Babasaheb Ambedkar Technological University, Lonere** during the academic year 2021-2022.



Prof. Sweta A. Raut
Guide



Prof. Supriya Sawwashere
Head of the Department

Project Examination held on _____



Internal Examiner/ Guide

External Examiner

PERSONAL ASSISTANT APPLICATION FOR SENIOR CITIZEN

**A Project Report submitted in partial fulfillment of the requirements
for the award of the degree of
Bachelor of Technology**

**In
Computer Science and Engineering**

Submitted by

Mr. Abhishek Vishwakarma

Ms. Arya Bhavate

Mr. Ankit Shah

Mr. Ganesh Nanhe

Mr. Satish Dhakate

**Under the Guidance of
Dr./Prof. Nitinkumar Choudhary**



Education to Eternity

Computer Science and Engineering

J D College of Engineering and Management, Nagpur-441501

An Autonomous Institute, with NAAC "A" Grade

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere

Year 2021-2022

DECLARATION

We hereby declare that the work presented in this project report entitled, “**Personal Assistant Application For Senior Citizen**” in the subject **Computer Science and Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Dr./Prof. Nitinkumar Choudhary, Computer Science and Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: 09/07/22

Date: Nagpur

Name of Student/Students

Mr. Abhishek Vishwakarma *Abhishek*

Ms. Arya Bhavate *Bhavate*

Mr. Ankit Shah *AnkitShah*

Mr. Ganesh Nanhe *Ganesh*

Mr. Satish Dhakate *SDhakate*

CERTIFICATE

This is to certify that the project report entitled, "Personal Assistant Application For Senior Citizen" in the subject Computer Science and Engineering in the faculty of Science and Technology submitted by Mr. Abhishek Vishwakarma, Ms. Arya Bhavate, Mr. Ankit Shah, Mr. Ganesh Nanhe, Mr. Satish Dhakate to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

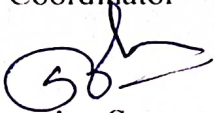


Prof. Nitinkumar Choudhary
Computer Science

Forwarded to:



Prof. Bhagyashree Madan
Project Coordinator



Prof. Supriya Sawwashere
Head of the Department
CSE-IT



Dr. S. V. Sonekar
Principal

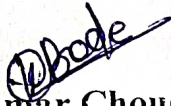
Principal

J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501



CERTIFICATE OF APPROVAL

This is to certify that the Project Report on **TITLE OF THE PROJECT** is approved work done by **Mr. Abhishek Vishwakarma, Ms. Arya Bhavate, Mr. Ankit Shah, Mr. Ganesh Nanhe, Mr. Satish Dhakate** in partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology** in **Name of Branch** at **J D College of Engineering & Management, Nagpur** affiliated to **Dr. Babasaheb Ambedkar Technological University, Lonere** during the academic year **2021-2022**



Prof. Nitinkumar Choudhary
Guide



Prof. Supriya Sawwashere
Head of the Department

Project Examination held on _____



Internal Examiner/ Guide

External Examiner

Smart Healthcare using Medical Chatbot

A Project Report submitted in partial fulfillment of the requirements
for the award of the degree of

Bachelor of Technology

In

Computer Science & Engineering

Submitted by

Mr. Ameer Meshram

Ms. Mohini Lad

Mr. Abhishek Bansod

Ms. Komal Bagde

Mr. Nikhil Mishra

Under the Guidance of

Prof. Mirza Moiz Baig



Education to Eternity

Department of Computer Science & Engineering

J D College of Engineering and Management, Nagpur-441501

An Autonomous Institute, with NAAC "A" Grade

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere

Year 2021-22

DECLARATION

We hereby declare that the work presented in this project report entitled, **“Smart Healthcare using Medical Chatbot”** in the subject **Computer Science & Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Prof. Mirza Moiz Baig**, Department of CSE, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date: 25/07/2022

Name of Students

Mr. Ameer Meshram

Ms. Mohini Lad

Mr. Abhishek Bansod

Ms. Komal Bagde

Mr. Nikhil Mishra

CERTIFICATE

This is to certify that the project report entitled, "Smart Healthcare using Medical Chatbot" in the subject Computer Science & Engineering in the faculty of Science and Technology submitted by Mr. Ameer Meshram, Ms. Mohini Lad, Mr. Abhishek Bansod, Ms. Komal Bagde & Mr. Nikhil Mishra to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.



Prof. Mirza Moiz Baig

Project Guide


Dept. of CSE-IT

Forwarded to:



Prof. Bhagyashree Madan

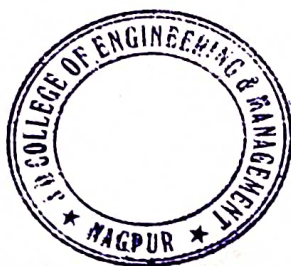
Project Coordinator



Prof. Supriya Sawwashere

Head of the Department

CSE-IT



Dr. Shrikant V. Sonekar

Principal

Principal

J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on “**Smart Healthcare using Medical Chatbot**” is approved work done by

Mr. Ameer Meshram

Ms. Mohini Lad

Mr. Abhishek Bansod

Ms. Komal Bagde

Mr. Nikhil Mishra

in partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology in Computer Science & Engineering** at J D College of Engineering & Management, Nagpur affiliated to **Dr. Babasaheb Ambedkar Technological University, Lonere** during the academic year 2021-2022.



Prof. Mirza Moiz Baig
Project Guide



Prof. Supriya Sawwashere
Head of Department

Project Examination held on _____

Internal Examiner/ Guide

External Examiner

SMART SOLAR BASED IRRIGATION SYSTEM

A Project Report submitted in partial fulfillment of the requirements for
the award of the degree of

Bachelor of Technology

In

Computer Science And Engineering

Submitted by

Mr. Samyak Gaikwad

Mr. Kaustub Charde

Mr. Piyush Hedao

Mr. Dhananjay Pimpalkar

Mr. Vedant Mohod

Under the Guidance of

Dr. Shrikant Sonekar



Education to Eternity

Department of Computer Science And Engineering

J D College of Engineering and Management, Nagpur-441501

An Autonomous Institute, with NAAC "A" Grade

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere

Year 2021-2022

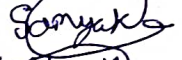
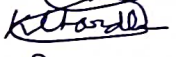



DECLARATION

We hereby declare that the work presented in this project report entitled, “**Smart Solar Based Irrigation System**” in the subject **Computer Science And Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Dr. Shrikant Sonekar**, Computer Science And Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date: 23/08/2023

Name of Students

Mr. Samyak Gaikwad 
Mr. Kaustub Charde 
Mr. Piyush Hedao 
Mr. Dhananjay Pimpalkar 
Mr. Vedant Mohod 

CERTIFICATE

This is to certify that the project report entitled, “**Smart Solar Based Irrigation System**” in the subject **Computer Science And Engineering** in the faculty of Science and Technology submitted by **Mr. Samyak Gaikwad , Mr. Kaustub Charde, Mr. Piyush Hedaoo, Mr. Dhananjay Pimpalkar, Mr. Vedant Mohod** to **Dr. Babasaheb Ambedkar Technological University, Lonere** for the award of the degree of **Bachelor of Technology** is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Dr. Shrikant Sonekar
Project Guide
Department of CSE/IT Engineering

Forwarded to:

Prof. Bhagyashree Madan
Project Coordinator

Prof. Supriya Sawwashere
Head of the Department
Department of CSE/IT Engineering

Dr. S. V. Sonekar
Principal

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on **SMART SOLAR BASED IRRIGATION SYSTEM** is approved work done by Mr. Samyak Gaikwad, Mr. Kaustub Charde, Mr. Piyush Hedao, Mr. Dhananjay Pimpalkar, Mr. Vedant Mohod. In partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology in Computer Science And Engineering** at J D College of Engineering & Management, Nagpur affiliated to **Dr. Babasaheb Ambedkar Technological University, Lonere** during the academic year 2021-2022.

Dr. Shrikant Sonekar
Project Guide

Prof. Supriya Sawwashere
Head of the Department
(CSE-IT)

Project Examination held on _____

Internal Examiner/ Guide

External Examiner

Video based analysis for proper judgement of forensic investigation

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Engineering In

Computer Science and Engineering

Submitted by

Rajat Sontakke

Rohini Badole

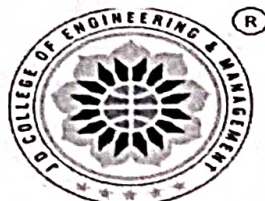
Alisha Sonwane

Kuldip Kapghate

Sushant Seware

Under the Guidance of

Prof. Rohan Kokate



Education to Eternity

Computer Science and Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Rashtrasant Tukadoji Maharaj Nagpur

Year 2021 -2022

DECLARATION

We hereby declare that the work presented in this project report entitled, "Video based analysis for proper judgement of forensic investigation" in the subject Computer Science of engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Rohan Kokate, Computer science & Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Rajat Sontakke

Rohini Badole

Alisha Sonwane

Kuldip Kapghate

Sushant Seware

Place: Nagpur

Date: 28/08/2021

CERTIFICATE

This is to certify that the project report entitled. "Video based analysis for project judgement of forensic investigation" in the subject **Computer Science Engineering** in faculty of Science and Technology submitted by **Rajat Sontakke, Rohini Badhole, Alisha Sonwane, Kuldip Kapghate, Sushant Seware** to **Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur** for the award of the degree of **Bachelor of Engineering** is a bonafide recorded of work carried out by them under my supervision. The content of this Project Report. In full or in part, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Dept. of Computer Science & Engineering

Forwarded to:

Prof. Rohan Kokate

Project Coordinator

Prof. Supriya Sawwashere

Head of the Department

Computer Science and Engineering

Dr. S. R Choudhari
Principal

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on **Video based analysis for proper judgement of forensic investigation** is approved work done by

Rajat Sontakke


Rohini Badole


Alisha Sonwane

Kuldip Kapghate

Sushant Seware

in partial fulfillment of the requirements for the award of the degree of **Bachelor of Engineering in Computer Science Engineering** at J D College of Engineering & Management, Nagpur affiliated to **Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur** during the academic year 2020-2021.


Prof. Rohan Kokate
Guide


Prof. supriya Sawwashere
Head of the Department

Project Examination held on

Internal Examiner/ Guide

External Examiner

FIELD PROJECT REPORT

on

“Koradi Thermal Power Station ”

Submitted in partial fulfillment of the requirements
for the award of the degree of

Bachelor of Technology

In

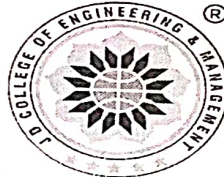
Electrical Engineering

Submitted by:

Roll no. 42 to 62

Under the Guidance of

Prof. Mandar Isasare



Education to Eternity

Department Of Electrical Engineering
J D College of Engineering and Management, Nagpur-441501

(An Autonomous Institute, with NAAC "A" Grade)
Affiliated to DBATU ,Lonere

Year 2021-22


CERTIFICATE

This is to certify that the filed visit report on, “**Koradi Thermal Power Station**” in the subject **Electrical Engineering** in the faculty of Science and Technology submitted by following students to **DBATU ,Lonere** for the award of the degree of **Bachelor of Technology** is a bonafide record of work carried out by them under my supervision.

| Roll No. | STUDENT NAME | Roll No. | STUDENT NAME |
|----------|-------------------------------|----------|--------------------------|
| 42 | SAKSHI MANISH SHRIVAS | 58 | VARUN SANJAYKUMAR AKARE |
| 43 | SAMIKSHA RAJU MENDHE | 59 | VINIT GYANIRAM UPRIKAR |
| 44 | SANKALP PRABHAKAR CHALLAWAR | 60 | VIVETA SITARAM SONDARKAR |
| 45 | SASHANK ISHWAR CHAHANDE | 61 | YASH RAVINDRA GUJAR |
| 46 | SAYALI SANJAY DAHIKAR | 62 | YOGITA RAMESHWAR BHURE |
| 47 | SHIVAN VASANT KURUMVANSHI | | |
| 48 | SHRUTIKA VIJAY YEWATKAR | | |
| 49 | SIDDHESHWAR SHIVLING SAKARGE | | |
| 50 | SUHANI DILIP BHAISARE | | |
| 51 | SUJIT ISHWAR BHANGE | | |
| 52 | SURESH RAMESH GOTE | | |
| 53 | TUSHAR RAJESH BHALERAO | | |
| 54 | URMILA OMKAR BANGADKAR | | |
| 55 | VAISHNAVEE BHASKAR WAGHADHARE | | |
| 56 | VANSHIKA DILIP SADAWARTI | | |
| 57 | VARSHA RAJKUMAR BHELAVE | | |


Prof. M. S. Asasare
Internship Coordinator, EE

Forwarded to:


Dr. S.R. Vaishnav
Head of Department
Electrical Engineering

Date: 18/05/2021

ACKNOWLEDGEMENT

I express our sincere gratitude, for giving us the opportunity to work in the industry.

I owe our sincerest gratitude towards **Dr. S. V. Sonekar**, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

The constant guidance and encouragement received from **Dr. S.R.Vaishnav**, Head, **Department of Electrical Engineering**, J D College of Engineering & Management, Nagpur, has been of great help in carrying out during the internship and is acknowledged with reverential thanks.

I would like to thank **Prof. Mandar S. Isasare**, Departmental Internship Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of internship.

Without his wise counsel and able guidance, it would have been impossible to complete the internship in this manner.

I would like to thank **Mr. S.K.Asati**, , Mansar Manganese Mine for giving me the opportunities to work in the industry/company.

I express gratitude to other faculty members of **Department of Electrical Engineering**, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

Industrial / Field Visit Report

At: Koradi Thermal Power Station

Website of the company: www.ktcmahageneco.com

Under the Aegis of: -

Geo tagged photos of the visit:



A. Brief Introduction of the company/institution:

Koradi Thermal Power Station (KTPS) is located at Koradi near Nagpur, Maharashtra. The power plant is one of the four major power plants in Vidarbha. A power surplus region of India. [The power station began operations in 1974 and is one of the nine active power stations operated by Maharashtra State Power Generation Company Limited (Prajot), a subsidiary of Government of Maharashtra owned Maharashtra State Electricity Board (MSEB). The plant operates 4 units and has a total power generation capacity of 2190 MW. A proposed 440 kilovolt high power transmission line from Koradi to Bhusawal would join Nagpur with Mumbai. KTPS campus also contains training institute of MahaGenco for middle and senior level engineers, technicians and other staff.

B. Products of the company:

KTPS generates and supplies electricity across the state of Maharashtra in India. This power plant has produces by-product after burning coal as an energy inputs. By product obtained in the form of fine ash. Which has been known fly ash and bottom ash. These by-product directly dump on the nearby area. The utility of these finer materials has proven a feasible substance in concrete constituent.

key areas of operations in case of institute:

1. Ash Handling Plant
2. Coal Handling Plant
3. Water Treatment
4. Steam Generator
5. Turbine Generator Unit

C. Customers of the company:

1. Domestic Electricity Consumer

2. Commercial Consumers
3. Industries

D. Major competitors of the company:

1. Adani Power Plant
2. Tata Power Plant
3. Reliance Power Plant

E. Turnover of the company: Around 50 Lakhs

F. Objective of visit:

1. To learn the functioning of coal based power plant .
2. To understand the coal to electricity cycle.
3. To understand the best and sustainable practices in running a coal based power plant.
4. To understand the better concept of power plant.

G. Observations during the visit:

1. Students observed the working of coal handling plant.
2. Student observed the working of ash handling plant .
3. Student observed the operation of control room
4. Student observed the operation of turbine generator set
- 5.

H. Key learning during the visit / Outcome of the visit:

Enhanced Knowledge: Participants gain a deeper understanding of working of thermal power plant, working of substation of thermal power plant and actual working of turbine generator set.

Real-World Exposure: Exposure to real-world thermal power plant and processes helps Participants Bridge the gap between theoretical knowledge and practical implementation.

I. CO/PO Attainment/Mapping: (Evaluation policy will be decided by teacher incharge in consultation with HOD)

1. Subject mapped with Industry Visit: Power System-II

2. Course Outcomes:

1. Define the different parameters of power system operation.
2. Illustrate the different parameters of power system operation and control.
3. To identify the different issues related to power systems
4. Analyze the different solution methods related to power system.
5. Choose amongst the different analytical & numerical methods for power flow solutions.
6. Solve the different problems related to cost load flow, fault, and reactive power and stability constraints in the power systems

FIELD PROJECT REPORT

on

“Mansar Manganese Mine”

Submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Technology

In

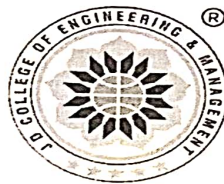
Electrical Engineering

Submitted by:

Roll no. 1 to 21

Under the Guidance of

Prof. Mandar Isasare



Education to Eternity

Department Of Electrical Engineering
J D College of Engineering and Management, Nagpur-441501


(An Autonomous Institute, with NAAC "A" Grade)
Affiliated to DBATU ,Lonere

Year 2021-22


CERTIFICATE

This is to certify that the filed visit report on, "Mansar Manganese Mine" in the subject Electrical Engineering in the faculty of Science and Technology submitted by following students to DBATU, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision.

| Roll No. | STUDENT NAME | Roll No. | STUDENT NAME |
|----------|-----------------------------|----------|----------------------------|
| 1 | ABHIJEET HARENDRA KHOBRADE | 17 | HARSHAL HEMANT MAHAKHODE |
| 2 | AKASH HEMRAJ JAGNADE | 18 | HARSHAL RAMANAND KATEKHAYE |
| 3 | AMAAN JAMEEL AHMAD SHEIKH | 19 | HIMANSHU RAMESH VAIDYA |
| 4 | ANJALI RAJKUMAR WANKHEDE | 20 | ISHA RAMESH THAKRE |
| 5 | ARYA VIJAY SARODE | 21 | KAJAL RAMESH DOYE |
| 6 | ATEEF IMRAN MOHAMMAD | | |
| 7 | AYUSH RAJENDRA BARSAGADE | | |
| 8 | AYUSHI RAMESH AMBADE | | |
| 9 | BHAWANA HARIHAR MOUNDEKAR | | |
| 10 | BHUMIKA LILADHAR BHANDAKKAR | | |
| 11 | CHANDRADEV NEERAJ SINGH | | |
| 12 | DARSHIT MURLIDHAR ASATKAR | | |
| 13 | DIPAK NARENDRA PATLE | | |
| 14 | GOURAV SUNIL SAKHARKAR | | |
| 15 | GUNJAN AMBADAS DHANVIJAY | | |
| 16 | HARSH HIRAMAN CHOURE | | |


Prof. M. S. Isasare
Internship Coordinator, EE

Forwarded to:


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Electrical Engineering

Date: 20/05/2021

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CHAPTER 1: EXECUTIVE SUMMARY

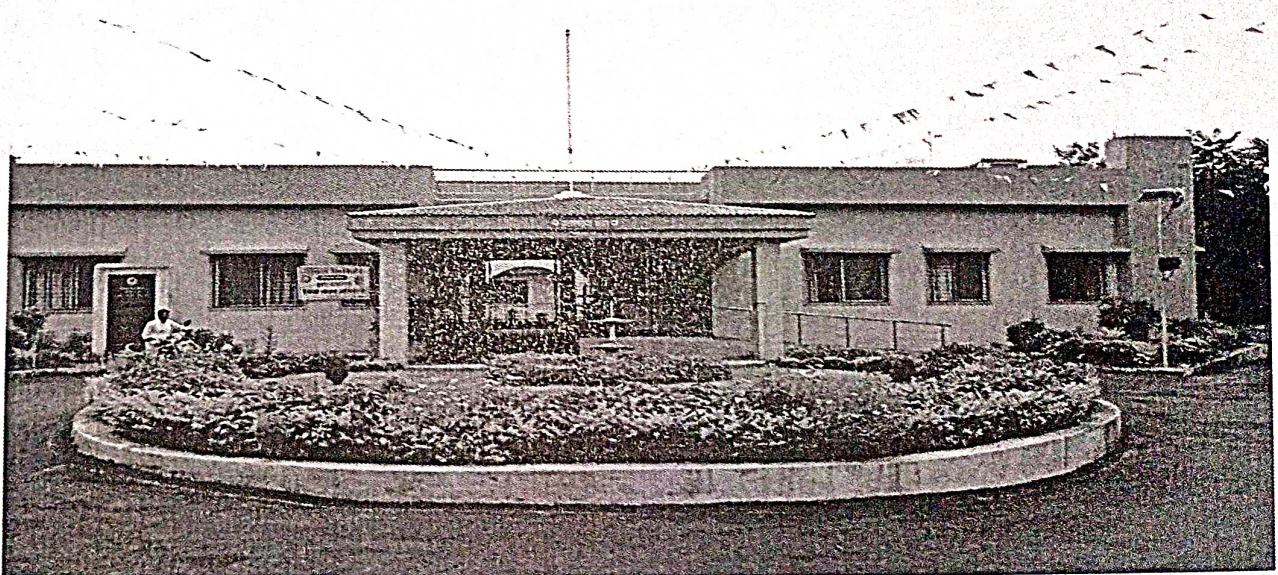
- It was originally originally incorporated as manganese ore india limited in the year 1962.
- Moil is production of manganese metal and alloys such as ferro -manganese and silicon- manganese .
- 33 kv power supply from bhage mahiri thermal power plant to khapa MSEDCL Electrical substation.
- 33 kv converted in to 11kv via stepdown transformer to transmit power in MOIL Ltd. Feeder.
- During the internship I learn about different types of devices like relay C.B. motors.
- And operate from electrical [HT] [LT] panel.
- Enclosed inspection have to be done before assembly.
- Learn about single line diagram.
- And detail study about step down transformer is converted 1500 kva. There high voltage, low voltage ,vector group.
- Study and uses of [HT] [LT] panel components.

CHAPTER 2 : ABOUT THE FIRM

- a. **Brief history:-** MOIL was originally set up as "Central Province Prospecting Syndicate" in the year 1896 in the region of Maharashtra and Madhya Pradesh. It was later renamed as "Central Provinces Manganese Ore Company Limited (CPMO)" in 1935. In 1962, the Government of India took over the mining activities from CPMO. Then, Manganese Ore (India) Limited was formed with 51% stake held between the Government of India and the Maharashtra and Madhya Pradesh State governments. The other 49% was retained with CPMO. In 1977, the balance of 49% was acquired from CPMO, and MOIL became a 100% state-owned enterprise.
- b. **Introduction of the organization:-** MOIL (earlier known as Manganese Ore (India) Limited) is a miniratna state-owned manganese ore mining company headquartered in Nagpur, India. With a market share of 50%, it is the largest producer of manganese ore in India.[2] MOIL operates 11 mines in adjoining districts of Maharashtra and Madhya Pradesh. It has been ranked #486 among the 500 top companies in India and 9th in the Mines and Metals Sector of the Fortune India 500 list for 2011.[3]

In December 2010, the Government of India divested about 20% of its equity through an IPO. Of the 20%, the Indian Government divested 10%, and the Government of Maharashtra and the Government of Madhya Pradesh each divested 5% of the total equity.[4][5] The central government holds 54% and the two state governments hold about 11% shares in MOIL.[6] and the public holds about 35% shares.

The shares were listed in 2011 at Rs. 440, went down to a low of Rs. 188 on 13 July and 15 February, before recovering currently to Rs. 351. The company issued one bonus share for every share held on 28 Sep 2017. The share price was about Rs. 140 in Januar



ADMINISTRATIVE BUILDING OF GUMGAON MINE

Location of Units of MAHARASHTRA

| | |
|--|---|
| Beldongri Mine P.O. Satuk Via. Ramtek Distt. Nagpur, Pin 441105 Office:-07102-202022 Res. | Gurgaon Mine P.O. Khapa, Distt. Nagpu Pin. 441101 Office : 07113-286123 Resi. 07113-286133 |
| Chika Mine P.O. Chikla, Distt-Bhandara Pin : 441920 Office : 07183-220231 Resi : 07183-220314 | Kandri Mine P.O. Kandri, Distt. Nagpur Pin : 441401 Office : 07114-202730 Resi. : 07114-268149 |
| Dongri Buzurg Mine P.O. Dongri Buzurg Dist Bhandara, Pin : 441907 Office : 07183-220230 Resi : 07183-220243 | Munsar Mine P.O Munsar, Dist Nagpur Pin : 441106 Office : 07507770641 Resi. : 07114-202127 |
| | |

MADHYA PRADESH

| | |
|--|--|
| Balaghat Mine P.O Bharweli, Dist. Balaghat, Pin : 481102 Office : 07632-245185 Resi : 07632 – 245189 | Tirodi Mine P.O. Tirodi, Dist Balaghat Pin : 481449 Office : 07630-276735 Resi : 0763027673 |
| Sitapatore Mine P.O Sukli, Dist Balaghat Pin : 481449 Office : 09425822506 | Ukwa Mine P.O. Ukwa, Dist Balaghat Pin : 481449 Office : 07636-274532 Resi : 07636-274596 |
| DELHI OFFICE Core6, 2nd Floor, SCOPE COMPLEX Lodhi Road, New Delhi : 110003 Office : 011-24360380, Residence : 011-25127307 Fax : 011- | |

MOIL LTD (GUMGAON MINE)

UNIT PROFILE

MOIL Limited is the largest Manganese ore producing company of India. At present total ten nos. mines including underground and opencast mines, are in operation at Madhya Pradesh and Maharashtra.

We share about 55% of Manganese ore production of India. MOIL has established a 10000 TPA capacity Ferro-Manganese plant at Balaghat (M.P.) and a 1200 TPA capacity Electrolytic Manganese Di Oxide plant at Dongri Buzurg in Maharashtra State. For Energy conservation and clean & green environment, MOIL has installed 4.8 M.W. and 15.2 MW capacity Wind Energy Generator Plants at Dewas (M.P.), which are contributing in energy conservation.

- c. Policy of the organization:- MOIL LTD, Nagpur does not automatically capture any specific personal information from you, like name, phone number or e-mail address, that allows us to identify you individually. If the India MOIL LTD, Nagpur requests you to provide personal information, you will be informed for the particular purposes for which the information is gathered and adequate security measures will be taken to protect your personal information.

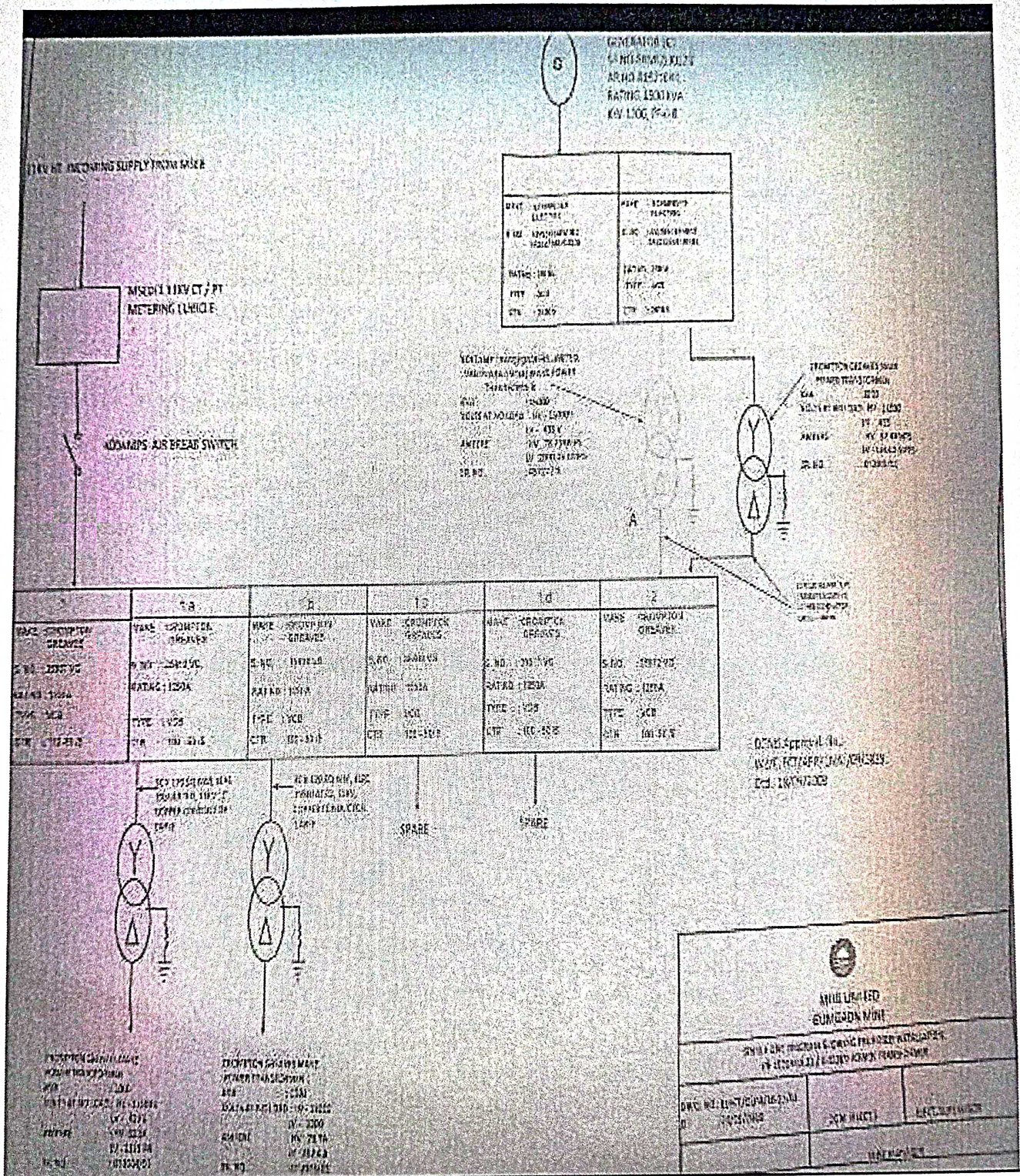
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Any information provided to this website will be protected from loss, misuse, unauthorized access or disclosure, alteration, or destruction.

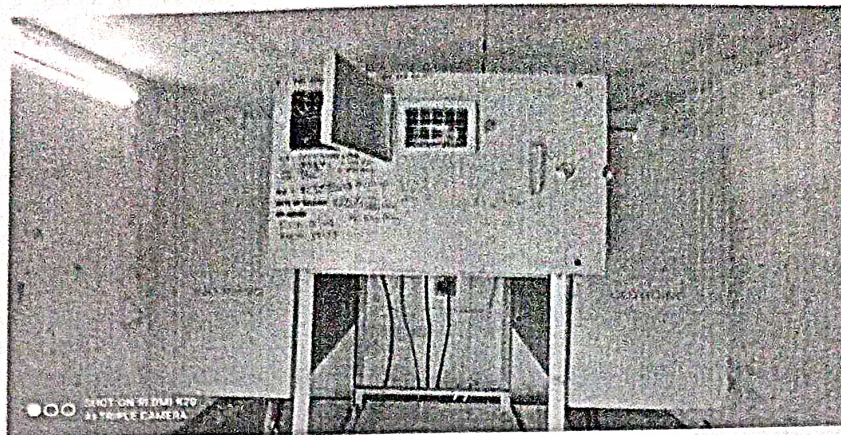
We gather certain information about the User, such as Internet protocol - IP addresses, domain name, browser type, operating system, the date and time of the visit and the pages visited. We make no attempt to link these addresses with the identity of individuals visiting our site unless an attempt to damage the site has been detected.

CHAPTER 3: ABOUT THE WORK DONE/PROJECTS

Single line diagram



Cubical meter



- **What is cubical meter**

Metering cubical is installed between INCOMING SUPPLY and FACTORY TRANSFORMER where 11kv,22kv,33kv which INCOMING SUPPLY comes to FACTORY PREMISES. 11kv METERING CUBICAL,22kv METERING CUBICAL,33 kV METERING CUBICAL are installed from INCOMING SUPPLY 11kv,22kv,33kv. METERING CUBICAL IS CONNECTED TO FACTORY INCOMING SUPPLY AND TRANSFORMER WITH CABLE JOINTING KIT (INDOOR JOINTING KIT),

- **Use Of Metering Cubical**

Metering cubical consists of 3 NOS CURRENT TRANSFORMER (CT) and 3 NOS OF POTENTIAL TRANSFORMER. The wiring of CT and PT is connected to the METER in the front part of the METERING CUBICAL, so the ELECTRICAL CONSUMPTION can be measured from the METER.

- **Purpose Of Metering Cubical In Msedcl**

Earlier POLE MOUNTED OUTDOOR CT AND PT were used and ENERGY bill of INDUSTRY was done by taking READING from meter in small METER BOX. In order to reduce the FAULT LEVEL (FAULTY FREQUENCY) in this method, COMPACT METERING CUBICAL was started from ELECTRICAL BOARD. METERING CUBICAL CLOSED saves space and maintains better FAULT LEVEL ACCURACY in METERING CUBICAL than OUTDOOR SYSTEM.

Distribution system

- 3 ϕ , 3 wire 11kv supply being fed from MSEDCL through HT over head line, is connected to 11kv main incomer HT VCB panel for feeding various load of mine, via HT metering cubical room. In HT cubical room there is connected CT and PT for measurement of consumed electrical quantities like Kwh, kva.h, P.f. etc.
- The Cubical are divided in to two parts upper one for energy meter.
- And lower one for current and voltage transformer .
- The cubical are dust proof and pilfer resistant.

Distributed systems are generally the coordinated flow of procedures, systems, and processes designed to facilitate the movement of products and services from the production source/provider to the end-user(consumer). It constitutes all methods and equipment required to flow goods and services from the producers to the customers. Therefore, the success of a business largely depends on its distributed systems because it is the drive for obtaining more sales. Distributed systems involve controlling inventories, adhering to time in delivery, and operating from a convenient place for both business and the customers. In supply chain management, distributed systems constitute storage facilities and transportation systems that receive orders and deliver goods to customers.

Characteristics of distributed systems include;

- **Concurrency**— Distributed systems run in parallel, and operation coordination occurs consecutively to ensure efficiency in the supply chain.
- **Transparency**— An overall supervisor or distribution manager must be in a position to supervise each unit system used in distribution.
- **Scalability**— Distributed systems are capable of expanding as workload increases. When more demand for goods arises, the systems must be able to expand to register such an increase. This is to ensure the distribution process is not brought to a halt by extra demands for goods and services.
- **Replication**— Within distributed systems, information is captured in several unit systems to ensure that such information is congruent and genuine. For instance, an order invoice will be captured in the computer storage systems, inventory books, and receipt books. Such replication is necessary for distribution for accountability.
- **Heterogeneity**— Despite working towards achieving a common objective, single units in distributed systems vary in many aspects, including operating procedures, designs, and guidelines. For instance, warehousing and transportation are part of the distribution process, yet they are run and managed differently.
- **Fault tolerance**— Distributed systems have coping mechanisms for dealing with faults that may occur with single system units. There are backup plans for an eventual fallout of every component of district.

Step down transformer

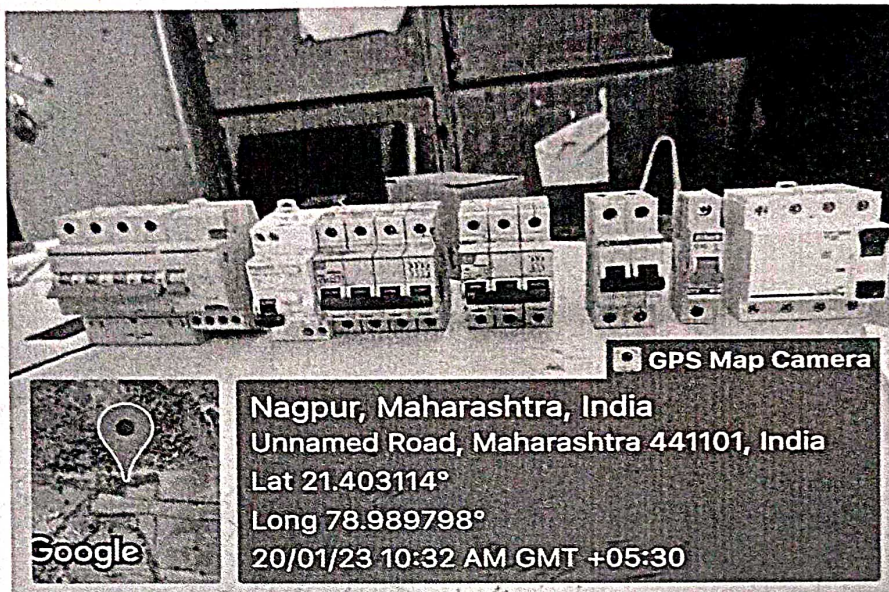


- 1) Step down transformer is converted 1500 KVA .
- 2) High voltage 78.73 AMP.
- 3) Low voltage 2000.05 amp.
- 4) High Voltage at top no. 4 11000
- 5) Low voltage 433v.
- 6) Vector group: 433v
- 7) Total taps: 7

Step Down Transformer Working Principle A step-down transformer operates primarily on the basis of electromagnetic induction. A conductor in a fluctuating electromagnetic field will see an induced current dependent on the rate at which the flux changes, according to Faraday's first law of electromagnetic induction. The main and secondary windings of the transformer have a high mutual induction and a common magnetic field because they are made up of two coils. As a result, the primary winding can cause a current in the secondary. Working on Step Down Transformer An emf in the second coil, coupled to the first coil, is generated by a uniform current variation in one coil. Mutual inductance is also used in the operation of an electric transformer. Two coils with a large mutual inductance are used in a step-down transformer, and these two coils are electrically isolated. In a step-down transformer, the primary or primary winding coil is the initial set of coils connected to a direct voltage and an alternating voltage source on the first side. The load is connected to the second set of coils, the secondary winding or secondary coil. This load draws the alternating result voltage. The windings of a step-down transformer carry alternating electricity. The primary winding is excited by the alternating input

voltage. This alternating current generates an alternating magnetic flux that travels through the magnetic iron core and back.

Circuit Breakers



Internally, circuit breakers are basically made up of pairs of metallic contacts both fixed and moving, in addition to an operating coil.

Under normal conditions – closed circuit – these contacts are touching each other, allowing the flow of electric current. These moving contacts are held together thanks to mechanical pressure exerted by another mechanism – a spring or compressed air, for example.

This pressure on the moving contacts is possible thanks to the potential energy stored in the mentioned pressure mechanism. When an overload occurs in the electrical circuit, the operating coil is charged with energy and a plunger connected to the mechanism of the moving contacts, allows the energy stored in this mechanism to be released, allowing the moving contacts to separate as well. As the moving contacts separate, the circuit inside the CB (circuit breaker) opens, interrupting the flow of current and protecting the system from further damage. However, it is important that you also understand the concept of “arc”.

When electrical current passes through an air gap from an energized component to a neutral component, a plasma discharge known as arc occurs. As an example, lightning is a very large arc, crossing atmospheric space from a cloud to the ground or to another cloud. Arcing can also occur in household electrical wiring, but also within circuit breakers during operation, which can damage them and cause fires if the arc is not controlled.

Molded-Case Circuit Breakers (MCCB)

Molded-Case Circuit Breakers are used primarily in low voltage circuits. In this model, all the parts that carry the current, mechanisms and switching devices, are embedded inside a molded box or circuit breaker box made of insulating material.

MCCB are frequently used as the first choice in alternating (AC) or direct (DC) current systems in the industry, and their main advantages are their versatility to integrate with other control devices, their low maintenance cost and their small size.

Vacuum Circuit Breakers (VCB)

In VCB, the interruption of electrical current occurs within a structure normally made of ceramic known as a "vacuum blister". This blister is fully insulated and allows a high rate of vacuum inside.

Inside this blister, there are the fixed and moving contacts. The electric arc starts when the contacts separate and thanks to the vacuum and the dielectric strength (electrical insulation) in the structure, the heat generated during the arc is quickly extinguished.

The main advantage of VCB is that they considerably reduce the risk of fire and require less maintenance.

Air Circuit Breakers (ACB)

The Air Circuit Breaker have a compressed air storage inside. This air is released through a nozzle and produces a high-speed jet of air. This air is what is used to extinguish the arc.

ACB are usually used in high and medium voltage field services, generally up to 15KV voltages or for outdoor lines up to 220KV or more, depending on the type. Their main advantages are their small size, high-speed response time, little maintenance they need and the considerable reduction in the risk of fire.

DC Motor

Types of DC Motor

There are 4 major types of DC motor and they are,

- Series DC Motor
- Permanent Magnet DC Motor
- Shunt/Parallel DC Motor
- Compound DC Motors

Construction of DC Motor

Before understanding the working of DC motor first, we have to know about their construction. There are two main parts of the DC motor.

Armature

Stator

The rotating part is the armature and the Stator is their stationary part. The armature coil is connected to the DC supply.

Working Principle of DC Motor

A DC motor is an electrical machine which converts electrical energy into mechanical energy. The basic working principle of the DC motor is that whenever a current carrying conductor places in the magnetic field, it experiences a mechanical force. CB Fleming's left-hand rule and its magnitude decide the direction of this force.

Fleming's Left Hand Rule:

If we stretch the first finger, second finger and thumb of our left hand to be perpendicular to each other, and first finger represents the direction of the magnetic field, the second finger represents the direction of the current, then the thumb represents the direction of the force experienced by the current carrying conductor.

$$F = BIL \text{ Newtons}$$

Where,

B = magnetic flux density,

I = current and

L = length of the conductor within the magnetic field.

When armature winding is connected to a DC supply, an electric current sets up in the winding. Permanent magnets or field winding (electromagnetism) provides the magnetic field. In this case, current carrying armature conductors experience a force due to the magnetic field, according to the principle stated above.

The Commutator is made segmented to achieve unidirectional torque. Otherwise, the direction

of force would have reversed every time when the direction of movement of the conductor is reversed in the magnetic field. This is how a DC motor works!

Back- EMF of DC motor According to the fundamental law of nature, no energy conversion is possible until there is something to oppose the conversion. In case of generators, magnetic drag provides this opposition, but in the case of dc motors, there is back emf. Presence of the back emf makes a dc motor 'self-regulating'.

When the armature of a motor is rotating, the conductors are also cutting the magnetic flux lines and hence according to the Faraday's law of electromagnetic induction, an emf induces in the armature conductors.

The direction of this induced emf is such that it opposes the armature current (I_a). The circuit diagram below illustrates the direction of the back emf and armature current.

Relay

it works on the principle of an electromagnetic attraction. When the circuit of the relay senses the fault current, it energises the electromagnetic field which produces the temporary magnetic field.

This magnetic field moves the relay armature for opening or closing the connections. The small power relay has only one contacts, and the high power relay has two contacts for opening the switch.

The inner section of the relay is shown in the figure below. It has an iron core which is wound by a control coil. The power supply is given to the coil through the contacts of the load and the control switch. The current flows through the coil produces the magnetic field around it.

Due to this magnetic field, the upper arm of the magnet attracts the lower arm. Hence close the circuit, which makes the current flow through the load. If the contact is already closed, then it moves oppositely and hence open the contacts.

- Pole and Throw

The pole and throws are the configurations of the relay, where the pole is the switch, and the throw is the number of connections. The single pole, the single throw is the simplest type of relay which has only one switch and only one possible connection.

Similarly, the single pole double throw relay has a one switch and two possible

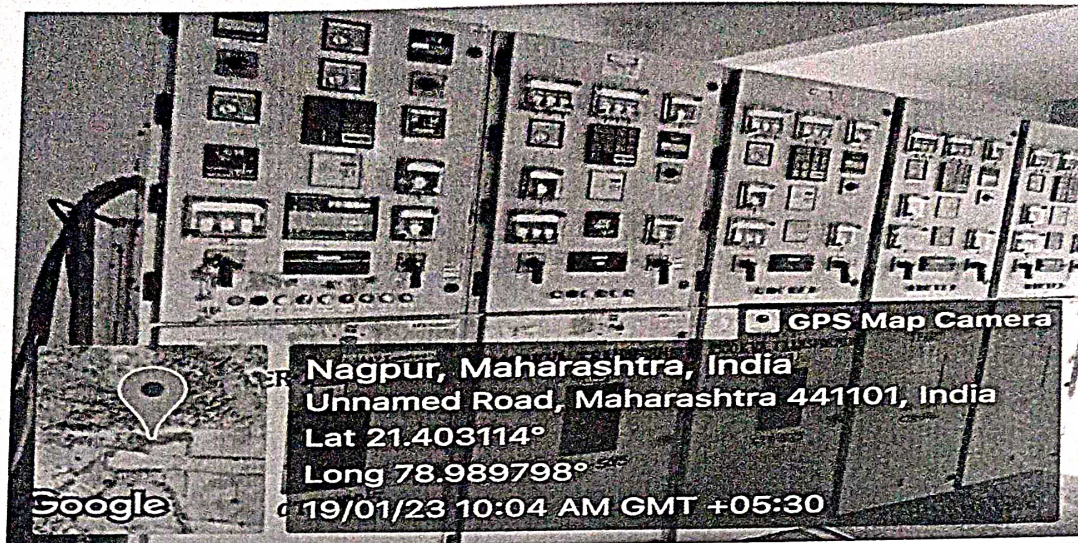
connections.

- Construction of Relay

The relay operates both electrically and mechanically. It consists electromagnetic and sets of contacts which perform the operation of the switching. The construction of relay is mainly classified into four groups. They are the contacts, bearings, electromechanical design, terminations and housing.

- Contacts – The contacts are the most important part of the relay that affects the reliability. The good contact gives limited contact resistance and reduced contact wear. The selection of the contact material depends upon the several factors like nature of the current to be interrupted, the magnitude of the current to be interrupted, frequency and voltage of operation.
- Bearing – The bearing may be a single ball, multi-ball, pivot-ball and jewel bearing. The single ball bearing is used for high sensitivity and low friction. The multi-ball bearing provides low friction and greater resistance to shock.
- Electromechanical design – The electromechanical design includes the design of the magnetic circuit and the mechanical attachment of core, yoke and armature. The reluctance of the magnetic path is kept minimum for making the circuit more efficient. The electromagnet is made up of soft iron, and the coil current is usually restricted to 5A and the coil voltage to 220V. Terminations and Housing – The assembly of an armature with the magnet and the base is made with the help of spring. The spring is insulated from the armature by moulded blocks which provide dimensional stability. The fixed contacts are usually spot welded on the terminal link

High tension panel [HT]



This is 3011kv main incomer HT VCB panel for feeding various load of mine.

- 2nd VCB panel is for 1000 kVA power transformer and two more for spare use
- Another VCB panel is for DG set (diesel generator) for any emergency or a power failure from MSEDCL
- Equipment's connected in HT Panel.
- voltmeter
- Voltmeter switch
- Ammeter
- Ammeter Switch
- Hooter for DC fail.
- Hooter for AC fail.
- Annunciator (annunciator is for to check all the safety equipment's are working good or not).
- Multifunction meter.
- AC DC fail Scheme.
- 3 over current and 1 earth fault relay
- DC fail relay
- Trip Circuit Supervision relay
- Demand controller
- Master trip relay, LR switch, relay test terminal block, TNC switch, indicators ETC.

HT panel receives electrical Supply 11KV or 33KV) from H – pole by 3 core HT cable & then it distributes power through one or more outgoing feeders.

These outgoing feeders are connected with distribution transformers which convert HT supply into 415V, 3-phase 4 wire AC supply.

To measure electrical power consumption, Energy Meter is installed in it, Meters are installed to measure electrical Voltage, Current, frequency, power factor etc.

Transformer protection relays are installed in it such as –

For Dry type transformer – WTI (Winding Temperature Indicator) – Alarm & Trip,

For Oil type Transformers – WTI & OTI (Oil Temperature Indicator) – Alarm & Trip and Buchholz relay (gas operated relay) – Alarm & Trip.

Short circuit protection, over load protection, earth fault protection relays can be installed in it against protection from faults.

HT Circuit Breakers such as VCB, SF₆, etc are available in market but VCB is the most commonly used HT breaker are used to make & break HT supply due to less maintenance.

HT circuit breakers can be switched ON & OFF either manually or electrically.

24V (or 30V) DC supply (battery charger) which is an external source to HT panel is used for various purposes like for metering, relay operations, indicating lights,

240 V ac supply is also used in HT panel for 16A power sockets provided inside panel, for panel lights & space heater.

Space heater is provided in HT panel to avoid moisture inside the panel.

To measure Incoming Supply voltage, 11KV is converted into 110V through PT (Potential Transformer). And 110V voltmeter is used for voltage measuring purpose.

To measure building load in terms of current, total current of the building is converted into 5A or 1A through CT (Current Transformer). CTs are available in different range – 600/5A, 400/5A, 300/5A or 600/1A, 400/1A, 300/1A A typical picture of HT panel is given below –

Safety requirement in HT panel room –

Single line diagram (SLD) – One SLD must be installed in HT room which must contain incoming & outgoing feeder details of the building.

Rescue hook – one rescue hook should be available at suitable location in the HT panel room so that in case of emergency/shock, it could be used. The purpose of rescue hook is to separate a person from electrical supply if he comes in contact with it.

Discharge rod – on discharge rod should be available in the HT panel room. The purpose of discharge rod is to discharge the HT cable ends & HT cable terminals when cable is disconnected with HT panel due to any fault or maintenance purpose.

Don't touch uninsulated parts of HT panel after switching of HT supply of panel – uninsulated

parts of HT panel should not be touched before discharging them. Because HT busbars & cables may store charge during continuous operation. Stored energy may be harmful & give shock.

Hand Gloves – Suitable voltage rating (11Kv 33KV) of hand gloves should be available in HT panel.

Shock treatment chart– It should be displayed in the HT room which shows that how a person is given first aid treatment when he gets an electric shock.

Panel Keys – Panel keys should be available at suitable location in HT panel room (very close the HT panel).

Door Lock – Panel door should always be closed & locked condition. This helps to prevent foreign objects / insects inside HT panel. Entry of insects in HT panel may lead to short circuit in the panel.

Holes/openings – All holes/openings should be sealed properly to prevent foreign objects / insects inside HT panel. Entry of insects in HT panel may lead to short circuit in the panel.

Identification of feeders – all incoming & out going feeders of HT panel should be numbered from front & back side. Both sides (front & back) of one feeder should have same number. This numbering & leveling prevents accidents during maintenance.

Danger plate – Suitable rating of danger plate (11KV or 33KV) should be installed on HT panel.

Lock HT room – HT panel room should be locked in case no manpower is available in it & key should be kept at suitable location.

Entry of authorized person – A list of authorized person should be displayed at the entrance of HT room. Only authorized should be allowed in HT room.

Maintenance – A regular maintenance should be carried out of HT panel as per schedule by OEM or trained inhouse manpower.

Testing of relays – Relays installed in the HT panel should be checked on regular basis to ensure that breaker will trip in case of fault.

Low tension panel [LT]



The term LT Switchgear includes low voltage Circuit Breakers, Switches, off load electrical isolators, HRC fuses, Earth Leakage Circuit Breaker, Miniature Circuit Breakers (MCB) and Molded Case Circuit Breakers (MCCB) etc i.e. all the accessories required to protect the LV system.

LT panels are responsible for distributing the power to various sub LT panels by receiving it from the transformer. These are rated for 430 V, 3-phase, 50Hz, three or four wire system.

It is a floor mounted free standing unit and it is totally closed and extensible type. Its design includes all provisions for safety of operation as well as for maintenance personnel.

S.S.C offer a wide range of LT switch boards that are available in both standard and customized sizes. These are applicable for automatic equipment, home appliances and communication products and come with the features like optimum power transmission and long service life.

In an industrial electric power system electric power is supplied from either private utilities or public utilities. The supplied voltage is in the range of 11KV, 33KV, 66KV or 132KV. These high voltages are stepped down to a low voltage using step-down

transformers.

The voltages in the range of 440 volts or below are called as low tension systems. This stepped voltage is further supplied to various panels and equipments through a switchgear arrangement that consisting of electrical switches, circuit breakers, fuses, protection equipment, metering boards, etc.

The figure shows a schematic diagram of the power distribution. This model scheme is mostly employed for large and medium scale industries. In some cases, sub-LT panels are not found; instead power is supplied directly from LT panels to SDBs depending upon the size of distribution area where the number of units to be supplied is the major consideration. The element in this power distribution model included LT panel, sub-LT panel, SDB (sub-distribution board), PDB (power distribution board) and LDB (lighting distribution board).

Various transformers supply is given to the LT panels, which acts as a main switching system for entire power distribution scheme and carries the total load demand. We will discuss the elements inside of the LT panels in brief later in this article. The output feeders of the LT panel are connected to sub-LT panels which are placed for a group of loads over a given section to supply the demand.

Diesel generator

The use of diesel generators is absolutely integral to the mining industry. The mining industry is a large part of the United States' revenue, and the use of generators is a very important element within that industry. Whether it is coal, gas, iron ore, or precious metals, mining is a very important part of how the country functions. Diesel generators account for approximately 72% of the energy used to run various facets of the mining industry. The large drills and shovels, as well as excavating machinery, all run on diesel generators. Many of these generators are in the form of huge land roving trucks that help to extract the minerals and other items and then transport them. In most cases, these gigantic generators can haul over 300 tons of material at one time. Diesel has a lower volatility rate, making it a safer option for use in the mining industry.

Mining extracts the earth's natural materials to provide energy. It is a business that is

absolutely essential to the success of our economy. Without the help of diesel generators, the job could take much longer to accomplish and would require a lot more manpower and money to operate efficiently. These diesel powered generators provide a lot of muscle, capacity, and stability. From drilling trenches to busting up rock, carting out huge loads of materials and pulling up heavy amounts of coal, diesel generators provide the strength and capability needed to get the job done. As for the heavy and large equipment that is used, diesel generators are still the equipment of choice in the mining industry.

[PLC] PROGRAM LOGIC CONTROL

• DEFINITION OF PLC

PLC is a digitally operating electronic apparatus which memory uses a programmable for the internal storage of instructions for implementing the specific functions such as logic, sequencing, timing, counting and arithmetic to control through digital and analog input/output modules.

• ADVANTAGES OF PLC

Delegation of human control functions to technical equipment aimed towards achieving.

- User friendliness
- ◆ Improved safety in working conditions
- ◆ Elimination of hard wired logic control / Simplification of electrical wirings
- Reduced space in electrical panel

• INPUT & OUTPUT INTERFACES

The voltage or current signals generated by the sensors, transducers, limit switches, push buttons are applied to the terminals of the input module. Input interface accepts either Analog/Digital Inputs, which are connected to the respective Analog/Digital Input modules from the machine. It converts the field signal into a standard control signal for processing by CPU. Depending on the nature of input signal, the input module could be digital or analog.

The output module acts as a link between the CPU and the output devices located in the field. The field devices could be relays, contactors, solenoid valves, lamps etc. Output interface module converts the signals received from the processor of the CPU into external signals with respect to the Analog Output / Digital Output / Relay Outputs which controls the machine functions. (e.g.) To control the Inverter or servo drive Analog output modules are used. For switching function for lower power rated components Digital output modules are used and for higher power rated components Relay output modules are used. Depending on the nature of output signal, the output module could be digital or analog.

● POWER SUPPLY UNIT

The power supply unit provides required voltages for operation of CPU module and other modules. Input voltages to power supply unit can be selected. [220VAC or 24VDC] based on control voltage. The power supply unit is of SMPS type [switched mode power supply] and generates 5V DC or 3.3vdc for CPU module, digital input/output modules, +/-15V DC to Analog Input/output module and 24vdc for relay output module..

● CENTRAL PROCESING UNIT

The CPU is the heart of the PLC. The CPU consists of the following:

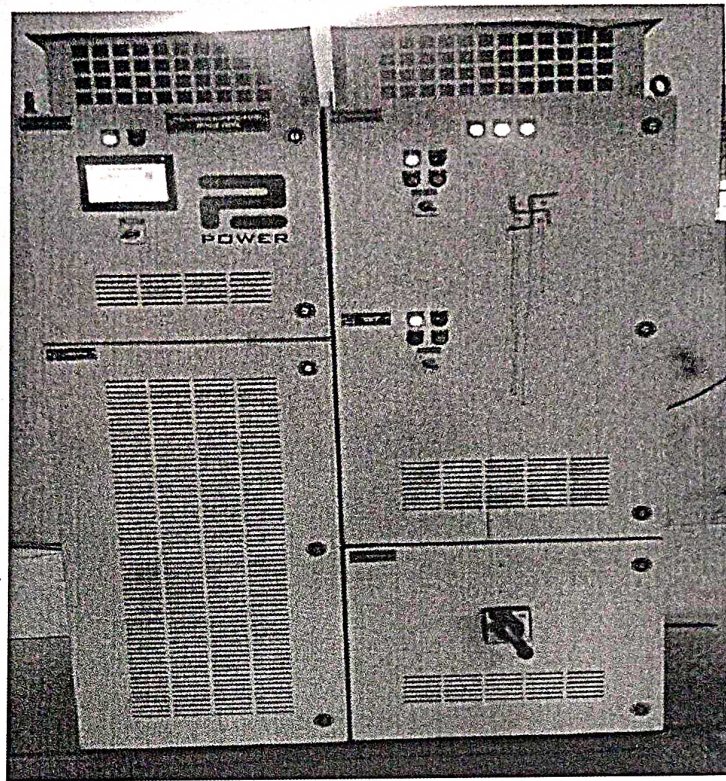
- ◆ Arithmetic and Logic unit (ALU)
- ◆ Program Memory
- ◆ Process Image Memory

Internal timers and counters

- ◆ Flags Heart of CPU is its microprocessor/ micro controller

C

APFC panel



APFC or Automatic Power Factor Control Panels are predominantly used for sustainment of Power Factor as per State Electricity Board. Power Factor is defined as ratio of active power to apparent power and it is mainly a key factor in measuring electrical consumption. Everyone knows that how costly electricity is computed now-a-days. Therefore it becomes very much important to reduce on electrical consumption for reducing expenditure and economizing the utility expenses by harnessing electrical utility by operation at desired power factor to curtail unwanted electricity penalty rising because of continuous power factor drop.

APFC Panel with stage based pre- programmable micro-controller of varied make which triggers the capacitor banks of suitable capacity automatically in multiple stages by directly sensing the reactive load which works in the principle of VAR(

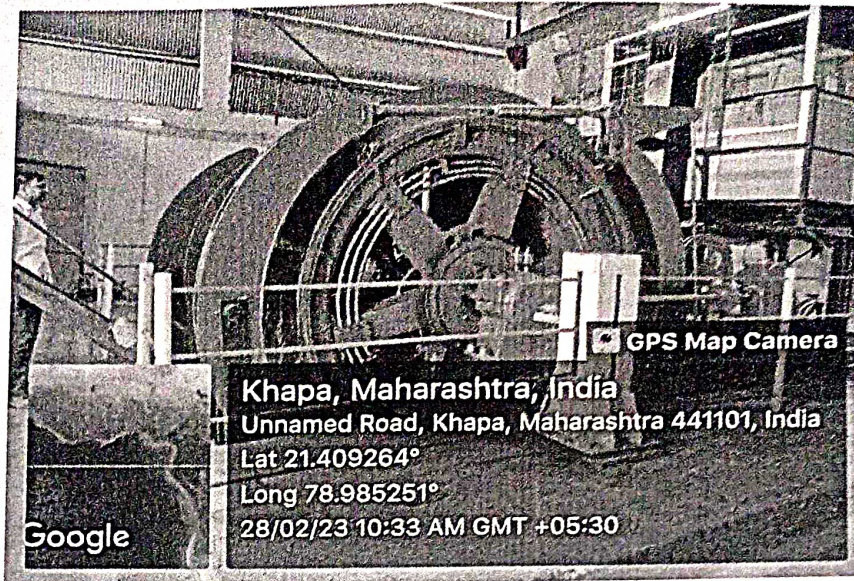
Volt Ampere Reactive) sensing tends to maintain the PF to 0.99 Lag. The capacitor banks are selected in number of stages as 4/6/8/12/16 according to the load pattern as per the customer requirement.

Locomotive

A battery-electric locomotive (or battery locomotive) is an electric locomotive powered by on-board batteries; a kind of battery electric vehicle.

Such locomotives are used where a conventional diesel or electric locomotive would be unsuitable. An example is maintenance trains on electrified lines when the electricity supply is turned off. Another use is in industrial facilities where a combustion-powered locomotive (i.e., steam- or diesel-powered) could cause a safety issue due to the risks of fire, explosion or fumes in a confined space. Battery locomotives are preferred for mines where gas could be ignited by trolley-powered units arcing at the collection shoes, or where electrical resistance could develop in the supply or return circuits, especially at rail joints, and allow dangerous current leakage into the ground.[48]

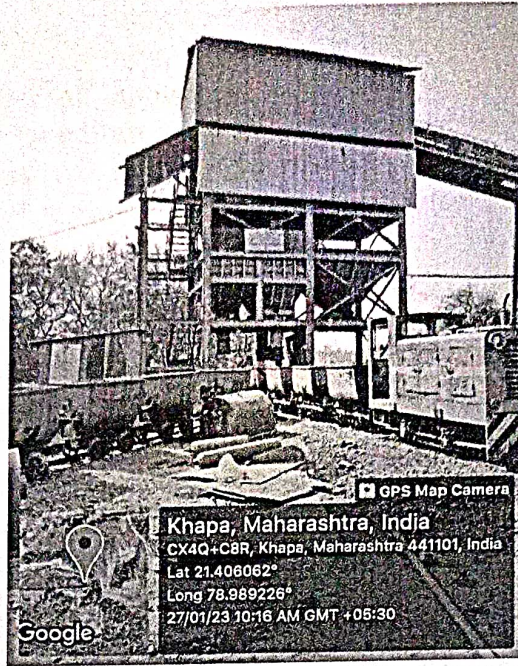
Winder



Mine winders with a pair of cylindrical drums are used for single- and double layer rope winding onto the double-skip and double-cage hoists as well as on counter-weight-fitted single vessel hoists. A distinctive feature of the machines is the brake housed inside the drum.

This enables the entire outside cylindrical drum surface to be utilized for rope winding (this increasing coiling length of the drum with its size specified and decreasing its overall dimensions with the drum coiling length being preset). These machines provide load hoisting from several levels with the distance there between being determined by the coiling length of one drum. intelligent capital equipment purchase Mine Winder Multirope winders may have several (2, 3, 4, 6, 8) hoist ropes and may be installed either on the tower head frame directly over the mine shaft or in the building of the ground-based equipment at a certain distance from the shaft. Multirope winders are mainly used for large-sized loads hoisting from the large depths levels

Crushing and screening



Crushing involves breaking of hard materials into small pieces by pressing, pounding, or grinding. Crushing equipment are utilized to change the size of hard waste materials and to recycle them easily. They are also used to differentiate between pieces of different compositions. Screening is primarily used to give a final separation to coarse materials. It is used as a final process for the separation of the different-sized material. Crushers and screeners are categorized into three types—cone crushers, horizontal shaft impact crushers, and jaw crushers. Mineral processing equipment is segmented into four types—grinding machine, spiral classifiers, magnetic separation, and spiral dewaterers. Crushing, screening and mineral processing equipment mainly finds application in construction and plant modification, foundries & smelters, and mining

CHAPTER 4: SWOC ANALYSIS

Strengths :-

- Largest producer of manganese ore by volume in the country with largest reserve of high / medium grade of manganese ore.
- Strong financials with high net worth and zero debt.
- Availability of manpower with good work culture and industrial relations.
- Moil is environment friendly mining company.

Weaknesses :-

- Moil's mines are very old and full mechanization is relatively difficult.
- All India manganese exploration is limited work.

Opportunities :-

- Moil is a good market potential for low/ medium grade ores due to continued increases use of silico manganese in steel production.
- Moil has Strong financials, i.e., large cash reserves provides opportunity to Moil to go for major investment plants.

Challenges

- Old infrastructure
- In underground main, there are main challenge is moisture and gases.

CHAPTER 5: LEARNING

- 1] study of 3 wire 11kv supply from MSEDCL.
- 2] 1500 KVA transformer.
- 3] study of HT panel
- 4]study of how to locomotive is work .
- 5] study of how to winder working and used.

FIELD PROJECT REPORT

on

“SNEHDEEP ELECTRICALS”

Submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Technology

In

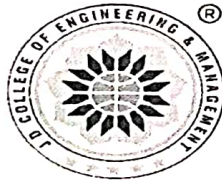
Electrical Engineering

Submitted by:

Roll no. 22 to 41

Under the Guidance of

Prof. Mandar Isasare



Education to Eternity

Department Of Electrical Engineering

J D College of Engineering and Management, Nagpur-441501

(An Autonomous Institute, with NAAC "A" Grade)

Affiliated to DBATU ,Lonere

Year 2021-22


CERTIFICATE

This is to certify that the filed visit report on, "SNEHDEEP ELECTRICALS" in the subject **Electrical Engineering** in the faculty of Science and Technology submitted by following students to **DBATU ,Lonere** for the award of the degree of **Bachelor of Technology** is a bonafide record of work carried out by them under my supervision.

| Roll No. | STUDENT NAME | Roll No. | STUDENT NAME |
|----------|-----------------------------|----------|--------------------------|
| 22 | KALYANI NITIN TABHANE | 38 | RATAN PRAVEEN BIHANDARI |
| 23 | KARAN KAILASH PAHADE | 39 | RAVINA TARACHAND NARGALE |
| 24 | KHUSHBOO NILESHRAO SHAHANE | 40 | SACHIN LALCHAND BISEN |
| 25 | KOMAL NARENDRA WAGH | 41 | SAHIL RASHID SHEIKH |
| 26 | KULDIP DINESH TALMALE | 38 | RATAN PRAVEEN BHANDARI |
| 27 | NANDINI SURESH WATGURE | | |
| 28 | NIKHIL GANESH KHOBARAGADE | | |
| 29 | NIKHIL VINOD ILAMKAR | | |
| 30 | NIKITA DIPAK DHARMIK | | |
| 31 | PALLAVI SHANKAR MOKHADE | | |
| 32 | PRACHI GOVINDRAO DANDEKAR | | |
| 33 | PRASANNA DILIP CHANEKAR | | |
| 34 | PRATIK PROMOD RAMTEKE | | |
| 35 | PRATIKSHA VASANTRAO MANDAPE | | |
| 36 | PRIYANSHU MANOJ MODAK | | |
| 37 | RAKHI DILIP MATE | | |


Prof. M. S. Isasare
Internship Coordinator, EE

Forwarded to:


Dr. S.R. Vaishnav
Head of Department
Electrical Engineering

Date: 23/05/2021

ACKNOWLEDGEMENT

I express our sincere gratitude, for giving us the opportunity to work in the industry.

I owe our sincerest gratitude towards **Dr. S. V. Sonekar**, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

The constant guidance and encouragement received from **Dr. S.R.Vaishnav**, Head, **Department of Electrical Engineering**, J D College of Engineering & Management, Nagpur, has been of great help in carrying out during the internship and is acknowledged with reverential thanks.

I would like to thank **Prof. Mandar S. Isasare**, Departmental Internship Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of internship.

Without his wise counsel and able guidance, it would have been impossible to complete the internship in this manner.

I would like to thank **Mr. A.K.Asatkar**, **SNEHDEEP ELECTRICALS** for giving me the opportunities to work in the industry/company.

I express gratitude to other faculty members of **Department of Electrical Engineering**, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

ABOUT THE ORGANIZATION

- Snehdeep Electricals company has established in year 1999 for repairing and

manufacturing.

- This company doesn't manufacture transformer, it only repairs and does maintenance of transformer of different ratings.
- This company does maintenance of different types of transformers such as single phase, three phase, three phase with neutral, core type and shell type transformers.
- It does maintenance of different ratings of transformer such as 16kva, 63kva, 100kva, 200kva, 315kva, 630kva, 750kva, etc.
- This company take order for government and private sectors.
- **Industries :** Repairing and manufacturing of distribution transformer.
- **Company Employs :** 20-25 Employs.
- **Location :** U-157/2 MIDC HINGNA, NAGPUR-440016.

ABOUT THE WORK DONE/PROJECTS

Company give the repairing work of 100 kva transformer.

- At first, we open the cap of transformer by using spanner.
- After that the we remove the oil from transformer tank.
- Then by using lift machine we life the transformer from the transformer tank as shown in fig 1.

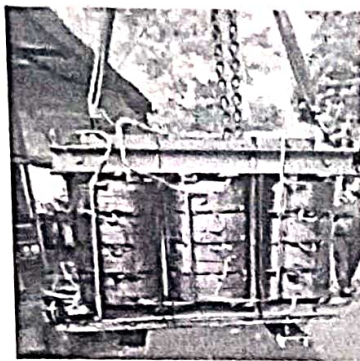


Fig 1

- Then we detect the fault by using multimeter.
- In 100 kva transformer the cause of fault was short circuit in LV and HV winding and the Winding was damaged as shown in fig 1.
- Then we dismantle the transformer as shown in fig 2.

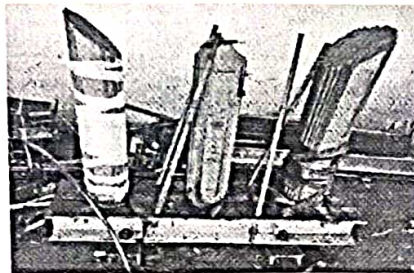


Fig 2

For repairing of 100 kva transformer firstly we take the aluminium wire and laminate the aluminium wire by using DPC machine.

- The paper insulation is used for insulation is about 2 mills as shown in fig 3.
- In this machine there is place to adjust the wire bundle and paper insulation.
- On the front side of the wire bundle of aluminium is placed as shown in fig 4.
- The paper insulation bundle of 2 mills paper is also placed at two places.
- The first paper insulation bundle will rotate in clockwise direction and another one will rotate in anticlockwise direction.

- After the double paper insulation get applied.
- The wire bundle is collected on the empty bobbin as shown in fig 5.

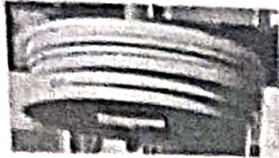


Fig 3



Fig 4



Fig 5

We made the HV winding coil by using HV coil winding machine.



Process:-

- For making the HV coil firstly we placed the aluminium laminate wire bobbin of the iron road.
- The wooden mold is use on the spindle for the making of HV winding.
- Firstly, we wound the lamination paper on the wooden mold. Then we start the winding.
- By using foot switch, we rotated the spindle and wound the HV winding as per the no. of turns.

For 100 kva HV coil no. of turns is 792.

- There is present analoge counter which count the no. of turn of winding.
- We create a 12 HV winding bundles as shown in fig 6.

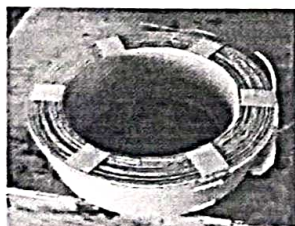


Fig 6



We are making lamination and making of LV winding with the help of LV coil winding machine.

Process:-

- Aluminium wire is wound on the road which is rotated as shown in fig 7.
- Then bypass the aluminium wire is between two plates. To straighten aluminium wire as shown in fig 7.

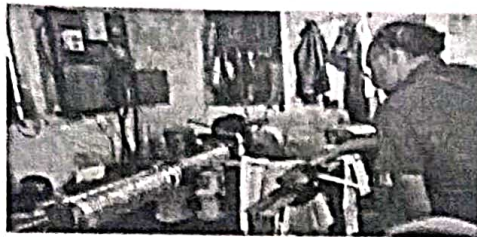


Fig 7

- The wooden mold is use on the spindle for the making of HV winding as shown in fig 8.

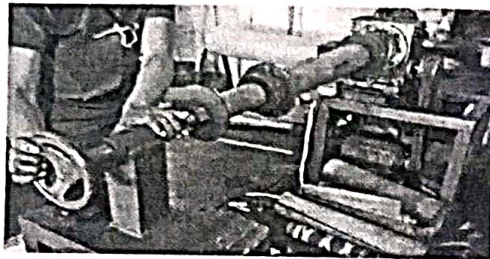


Fig 8

- We wound the lamination Paper on the wooden mold as shown in fig 9. Then we start the winding.

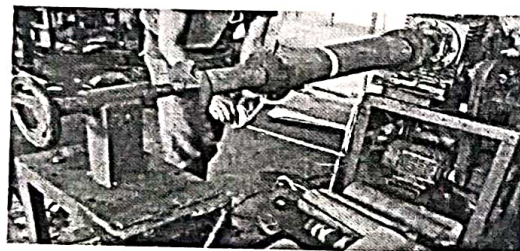


Fig 9

- Firstly, we starting end point of aluminium wire is fixed on the spindle and laminate the aluminium wire with the 2 mills paper insulation as shown in fig 10.

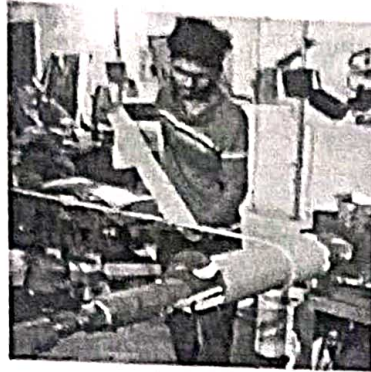


Fig 10



Fig 11

- Using foot switch as shown in fig 11 we rotated the spindle and wound the LV winding as per the no. of turns.
For 100 kva LV coil the no. of turns is 72.
- There is present analoge counter in left side which count the no. of turn of winding as shown in fig 12.



Fig 12

- We create a 3 LV winding bundles as shown in fig 13.

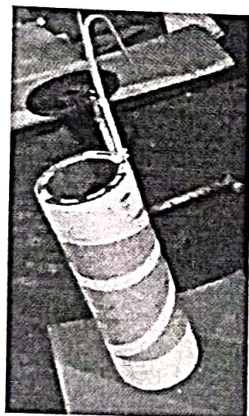


Fig 13



Then we starting assemble the 100 kva transformer.

- As shown in fig we can the core is not insulated as shown in fig 14.

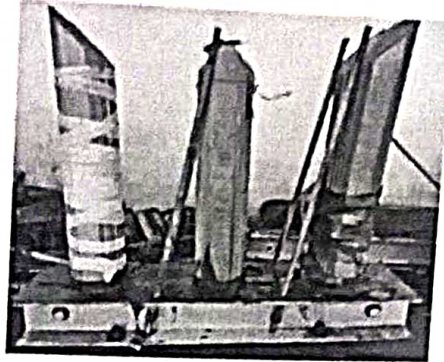


Fig 14

- Firstly, we insulated the core by using cotton sleeve and 10-mil paper as shown in fig 15.

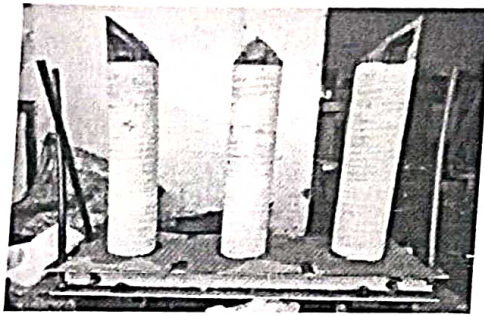


Fig 15

- Then LV winding is placed in core as shown in fig 16.



Fig 16

- After the one another 10 mill insulation is use on LV winding as shown in fig 17.



Fig 17

- After that the HV winding is placed on it as shown in Fig 18.

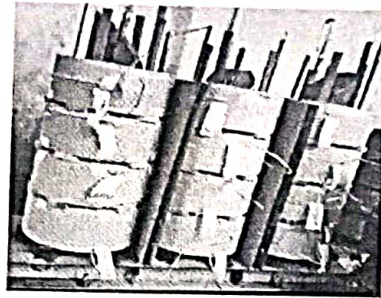


Fig 18

After we do series connection of transformer.

- In fig 19 we see there are three limbs. Left limb, Middle limb, Right limb.



Fig 19

- In core type transform there are 4 HV winding is present in each limb.
- Every HV winding have present starting and ending point.
- For series connection the end of first winding is connect to starting point of second winding (2 is content to 3 as shown in fig 19).
- Similarly, second HV winding end is connect to 3 Staring point of 3rd HV winding (4 is content to 5 as shown in fig 19).

- Similarly, third HV winding end is connect to forth Staring point of 4 HV winding (6 is content to 7 as shown in fig 19).
- Similarly, connection is another tow limbs.
- Completion of all connections we can see in fig 20.

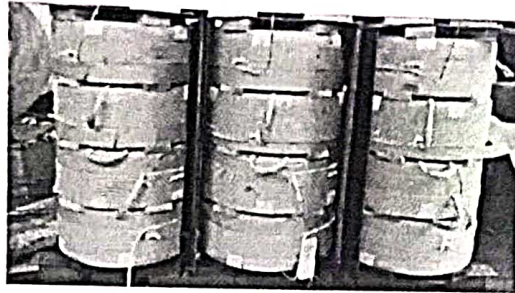


Fig 20

After series connection we do series connection of HV winding.

- After series connection those wire is leftover, we can see in fig 21.



Fig 21

- For parallel connection in 1 limb the first winding of starting point is connected to third limb of 4 end point (1 is connected to 6 as shown in fig 21).
- Then 1 limb of forth HV winding end point is connected to 2 limb of first HV winding of starting point (2 is connected to 3 as shown in fig 21).
- Then 2 limb of forth HV winding end point is connected to 3 limb of first HV (4 is connected to 5 as shown in fig 21).
- Completion of all connections we can see in fig 22.

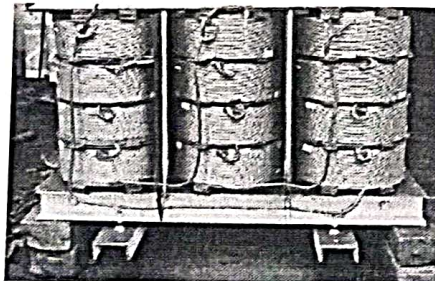


Fig 22

Now we are fitting the core plate of the transformer.

- The material is made of steel laminate as shown in fig 23.
- The thickness of each steel laminations varies from 0.25 - 0.5 mm.
- The steel plants are different in size , bigger to smaller as shown in fig 23.

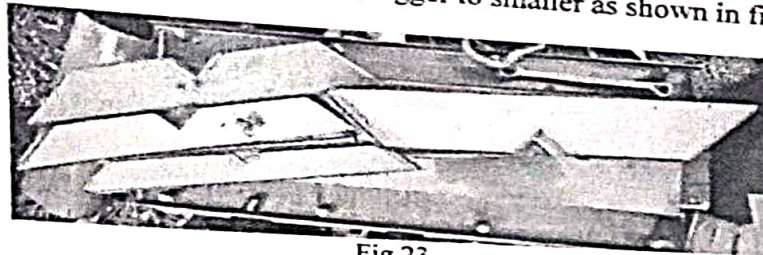


Fig 23

- For Fitting of I shape core plate is started from the middle of core as shown in fig 24.
- When we start the fitting of core plate, we fixed the bigger size of steel plates from the middle.



Fig 24



Fig 25

- Then We fixed the steel plates form middle to front or middle to back in descending order fig 25.
- The fixing of core plate is done from middle to front or middle to back side as shown in fig 26.



Fig 26

Now we connect the star connection of LV winding by using gas welding.

- For star connection all three LV winding are connected to aluminium strip , on which neutral point is given by using the gas welding.



Fig 27

- We can see the star connection in fig 27.
- Then after doing the star connection, we send the transformer in the transformer heating oven for removing the moistures as shown in fig 28.



Fig 28

- After removing the moistures, we take a resistance test with the help of Megger.
- Then we apply extra layer of insurance of varnish on the winding.
- 5 to 10 minutes we keep it to dry.
- After that we put the transformer in the transformer tank as shown in fig 29.
- We fix the bushing in the transformer tank as shown in fig 29.

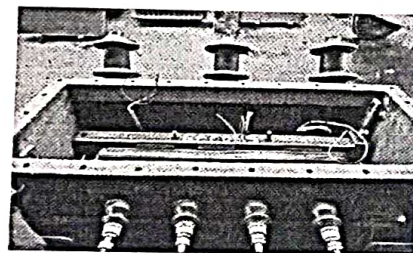


Fig 29

- Then we do the connection of bushing.
- In fig 30 we see the LV Side connection of primary bushing.

- In fig 31 we see the HV Side connection of secondary bushing.

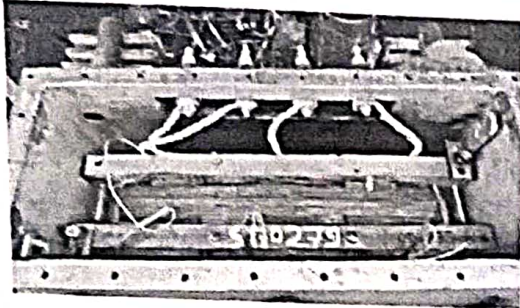


Fig 30

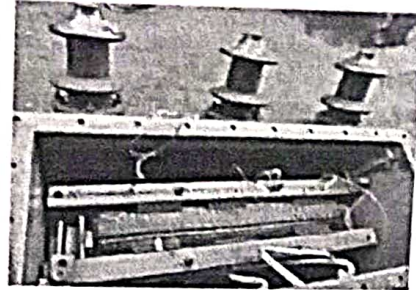


Fig 31

- Then we put the cap on transformer tank and then we fix it with nuts and Bolts shown in fig 32.



Fig 32

Then spray the oil paint on transformer tank with the help of spray machine.

- Then we filled transformer oil in the transformer tank with the help of oil Filtration machine as shown in fig 33.

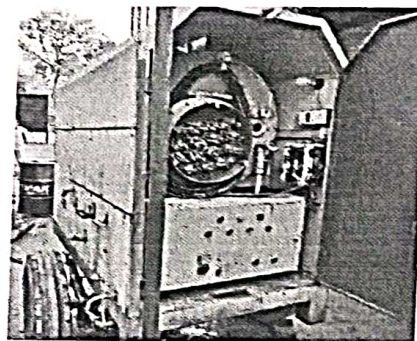


Fig 33

- The we take a test of no load , full load , phase to phase and phase to Neutral test show in fig 34.

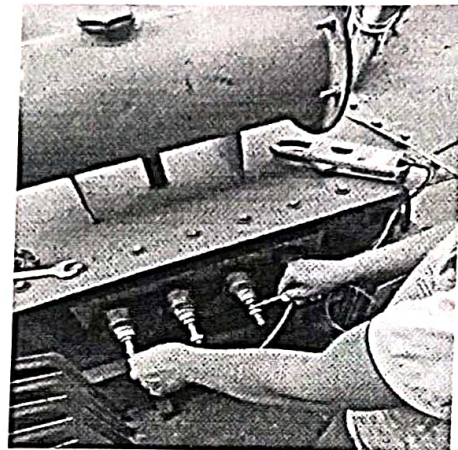
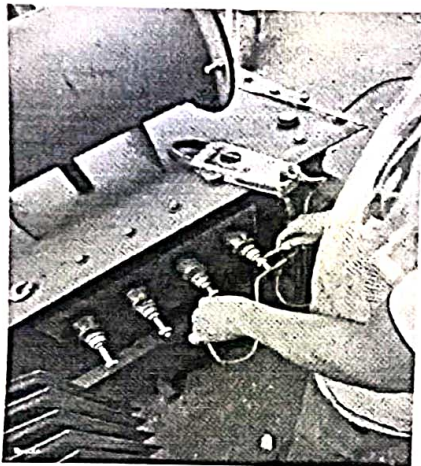
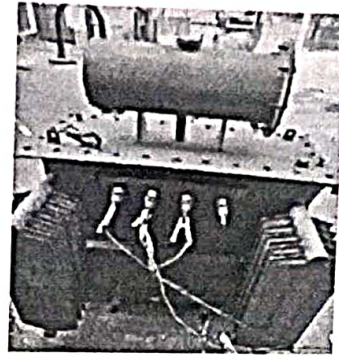
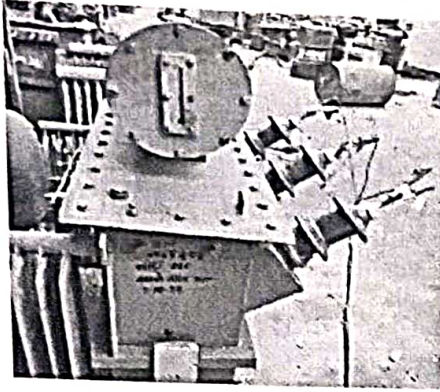


Fig 34

SWOT Analysis

Strengths:

- The transformer which maintain by company have good efficiency
- Transformer company staff are skilled for transformer maintenance
- The company gets government and commercial contracts as the company has a good image in the market

Weaknesses:

- Company has old machinery system
- The company doesn't have much insufficient space to work

Opportunities:

- Company can open multiple branches
- Company will be strong economy in future

Threats:

- There are new competitors in the market
- Transformer has good life time hence there is shortage of defective transformers

LEARNING

Low Voltage winding

- First step is manufacturing of LV Winding.
- The material used for LV Winding is aluminum provided with paper insulation.
- The thickness and number of turns in the LV winding depends upon the ratings of the transformer.

High Voltage Winding

- Primary windings (HV winding) are made up of aluminum coil.
- The number of turn in it is the multiple of the number of turns in the low voltage windings.
- It has aluminum coil thinner than that of the low voltage windings.

Core Coil Assembly

- In the core coil assembly coil is fitted in the core and upper yoke limb is inserted to complete the core, then core is tightened using upper and lower pressing beams.
- For coil-to-coil insulation and core to coil insulation press pan sheet is used.
- For insulation between bottoms pressing beam and coil wooden base is used.

Transformer oven section

- Core ovening section is the most important part of repairing transformer.
- This is use to remove the moisture from the core and windings of the transformer.
- In this the core is placed inside the oven at 40-60 °C temperature in summer season and 100-120 °C temperature in winter summer.

Transformer three phase connection

- Windings of a three-phase transformer can be connected in be configuration as :
 1. Star connection
 2. Delta connection

Testing of Transformer

- Pre testing
 1. Insulation resistance test
 2. Voltage ratio test
- Final testing
 1. Short circuit test
 2. Open circuit test

PHOTO GALLERY



ABOUT THE ORGANIZATION

- Snehdeep Electricals company has established in year 1999 for repairing and manufacturing.
- This company doesn't manufacture transformer, it only repairs and does maintenance of transformer of different ratings.
- This company does maintenance of different types of transformers such as single phase, three phase, three phase with neutral, core type and shell type transformers.
- It does maintenance of different ratings of transformer such as 16kva, 63kva, 100kva, 200kva, 315kva, 630kva, 750kva, etc.
- This company takes order for government and private sectors.
- **Industries :** Repairing and manufacturing of distribution transformer.
- **Company Employs :** 20-25 Employees.
- **Location :** U-157/2 MIDC HINGNA, NAGPUR-440016.

ABOUT THE WORK DONE/PROJECTS

Company give the repairing work of 100 kva transformer.

- At first, we open the cap of transformer by using spanner.
- After that the we remove the oil from transformer tank.
- Then by using lift machine we life the transformer from the transformer tank as shown in fig 1.



Fig 1

- Then we detect the fault by using multimeter.
- In 100 kva transformer the cause of fault was short circuit in LV and HV winding and the Winding was damaged as shown in fig 1.
- Then we dismantle the transformer as shown in fig 2.



Fig 2

For repairing of 100 kva transformer firstly we take the aluminium wire and laminate the aluminium wire by using DPC machine.

- The paper insulation is used for insulation is about 2 mills as shown in fig 3.
- In this machine there is place to adjust the wire bundle and paper insulation.
- On the front side of the wire bundle of aluminium is placed as shown in fig 4.
- The paper insulation bundle of 2 mills paper is also placed at two places.
- The first paper insulation bundle will rotate in clockwise direction and another one will rotate in anticlockwise direction.

- After the double paper insulation get applied.
- The wire bundle is collected on the empty bobbin as shown in fig 5.



Fig 3



Fig 4



Fig 5

We made the HV winding coil by using HV coil winding machine.



Process:-

- For making the HV coil firstly we placed the aluminium laminate wire bobbin of the iron road.
- The wooden mold is use on the spindle for the making of HV winding.
- Firstly, we wound the lamination paper on the wooden mold. Then we start the winding.
- By using foot switch, we rotated the spindle and wound the HV winding as per the no. of turns.

For 100 kva HV coil no. of turns is 792.

- There is present analoge counter which count the no. of turn of winding.
- We create a 12 HV winding bundles as shown in fig 6.



Fig 6



We are making lamination and making of LV winding with the help of LV coil winding machine.

Process:-

- Aluminium wire is wound on the road which is rotated as shown in fig 7.
- Then bypass the aluminium wire is between two plates. To straighten aluminium wire as shown in fig 7.



Fig 7

- The wooden mold is use on the spindle for the making of HV winding as shown in fig 8.



Fig 8

- We wound the lamination Paper on the wooden mold as shown in fig 9. Then we start the winding.



Fig 9

- Firstly, we starting end point of aluminium wire is fixed on the spindle and laminate the aluminium wire with the 2 mills paper insulation as shown in fig 10.



Fig 10



Fig 11

- Using foot switch as shown in fig 11 we rotated the spindle and wound the LV winding as per the no. of turns.
For 100 kva LV coil the no. of turns is 72.
- There is present analoge counter in left side which count the no. of turn of winding as shown in fig 12.



Fig 12

- We create a 3 LV winding bundles as shown in fig 13.



Fig 13

Then we starting assemble the 100 kva transformer.

- As shown in fig we can the core is not insulated as shown in fig 14.



Fig 14

- Firstly, we insulated the core by using cotton sleeve and 10-mile paper as shown in fig 15.



Fig 15

- Then LV winding is placed in core as shown in fig 16.



Fig 16

- After the one another 10 mill insulation is use on LV winding as shown in fig 17.



Fig 17

- After that the HV winding is placed on it as shown in Fig 18.



Fig 18

After we do series connection of transformer.

- In fig 19 we see there are three limbs. Left limb, Middle limb, Right limb.



Fig 19

- In core type transform there are 4 HV winding is present in each limb.
- Every HV winding have present starting and ending point.
- For series connection the end of first winding is connect to starting point of second winding (2 is content to 3 as shown in fig 19).
- Similarly, second HV winding end is connect to 3 Staring point of 3rd HV winding (4 is content to 5 as shown in fig 19).

- Similarly, third HV winding end is connect to forth Staring point of 4 HV winding (6 is content to 7 as shown in fig 19).
- Similarly, connection is another tow limbs.
- Completion of all connections we can see in fig 20.



Fig 20

After series connection we do series connection of HV winding.

- After series connection those wire is leftover, we can see in fig 21.



Fig 21

- For parallel connection in 1 limb the first winding of starting point is connected to third limb of 4 end point (1 is connected to 6 as shown in fig 21).
- Then 1 limb of forth HV winding end point is connected to 2 limb of first HV winding of starting point (2 is connected to 3 as shown in fig 21).
- Then 2 limb of forth HV winding end point is connected to 3 limb of first HV (4 is connected to 5 as shown in fig 21).
- Completion of all connections we can see in fig 22.



Fig 22

Now we are fitting the core plate of the transformer.

- The material is made of steel laminate as shown in fig 23.
- The thickness of each steel laminations varies from 0.25 - 0.5 mm.
- The steel plants are different in size , bigger to smaller as shown in fig 23.



Fig 23

- For Fitting of I shape core plate is started from the middle of core as shown in fig 24.
- When we start the fitting of core plate, we fixed the bigger size of steel plates from the middle.



Fig 24



Fig 25

- Then We fixed the steel plates form middle to front or middle to back in descending order fig 25.
- The fixing of core plate is done from middle to front or middle to back side as shown in fig 26.



Fig 26

Now we connect the star connection of LV winding by using gas welding.

- For star connection all three LV winding are connected to aluminium strip , on which neutral point is given by using the gas welding.



Fig 27

- We can see the star connection in fig 27.
- Then after doing the star connection, we send the transformer in the transformer heating oven for removing the moistures as shown in fig 28.



Fig 28

- After removing the moistures, we take a resistance test with the help of Megger.
- Then we apply extra layer of insurance of varnish on the winding.
- 5 to 10 minutes we keep it to dry.
- After that we put the transformer in the transformer tank as shown in fig 29.
- We fix the bushing in the transformer tank as shown in fig 29.



Fig 29

- Then we do the connection of bushing.
- In fig 30 we see the LV Side connection of primary bushing.

- In fig 31 we see the HV Side connection of secondary bushing.



Fig 30



Fig 31

- Then we put the cap on transformer tank and then we fix it with nuts and Bolts shown in fig 32.



Fig 32

Then spray the oil paint on transformer tank with the help of spray machine.

- Then we filled transformer oil in the transformer tank with the help of oil Filtration machine as shown in fig 33.



Fig 33

- The we take a test of no load , full load , phase to phase and phase to Neutral test show in fig 34.



Fig 34

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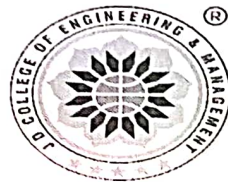
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PHOTO GALLERY



FIELD PROJECT REPORT
on
“Aviro Solar Energy India Pvt.Ltd”
Submitted in partial fulfillment of the requirements
for the award of the degree of
Bachelor of Technology
In
Electrical Engineering
Submitted by:
Roll no. 01 to 23
Under the Guidance of
Prof. Mandar Isasare



Education to Eternity

Department Of Electrical Engineering
J D College of Engineering and Management, Nagpur-441501
(An Autonomous Institute, with NAAC "A" Grade)
Affiliated to DBATU ,Lonere
Year 2021-22


CERTIFICATE

This is to certify that the filed visit report on, "Aviro Solar Energy India Pvt.Ltd" in the subject **Electrical Engineering** in the faculty of Science and Technology submitted by following students to **DBATU ,Lonere** for the award of the degree of **Bachelor of Technology** is a bonafide record of work carried out by them under my supervision.

| Roll No. | STUDENT NAME | Roll No. | STUDENT NAME |
|----------|--------------------------------|----------|---------------------------|
| 1 | ABHIJEET VILASRAO DHANADE | 17 | MOHIT GAJANANRAO KAMDE |
| 2 | ACHAL SHARAD DHAWALE | 18 | NALINI MADHUKAR PAUNIKAR |
| 3 | AKSHAY BANDU TAJANE | 19 | NEHA SATISHRAO KALE |
| 4 | ANKUR RAJESH DONGRE | 20 | PARNIKA AJAYRAO SHENDE |
| 5 | BALARAM PANCHARAM MANDAL | 21 | POOJA KRISHNA MESHRAM |
| 6 | BHUPESH BHASKAR BANSOD | 22 | PRANAV ASHOK DANGE |
| 7 | DURYODHAN NAMDEO BANKAR | 23 | PRATIKSHA MAHENDRA VAIDYA |
| 8 | HARSH NARESH GUPTA | | |
| 9 | HARSHAL VIVEK ZODAPE | | |
| 10 | HIMANSHU MADHUKAR PURAMKAR | | |
| 11 | HIMANSHU VIJAY BORKAR | | |
| 12 | JOSHANA DHANRAJ GABHANE | | |
| 13 | KARAN DAULAT MASRAM | | |
| 14 | KUNAL RAMESH TAYDE | | |
| 15 | LALITKUMAR UTTAMKUMAR BHALEKAR | | |
| 16 | LOKESH PURUSHOTTAM RAMTEKE | | |


Prof. M.S. Isasare
Internship Coordinator, EE

Forwarded to:


Dr. S.R. Vaishnav
Head of Department
Electrical Engineering

Date:22/05/2021

ACKNOWLEDGEMENT

I express our sincere gratitude, for giving us the opportunity to work in the industry. I owe our sincerest gratitude towards **Dr. S. V. Sonekar**, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

The constant guidance and encouragement received from **Dr. S.R.Vaishnav**, Head, Department of Electrical Engineering, J D College of Engineering & Management, Nagpur, has been of great help in carrying out during the internship and is acknowledged with reverential thanks.

I would like to thank **Prof. Mandar S. Isasare**, Departmental Internship Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of internship.

Without his wise counsel and able guidance, it would have been impossible to complete the internship in this manner.

I would like to thank **Mr. Abhijeet Firke**, **Aviro Solar Energy India Pvt.Ltd** for giving me the opportunities to work in the industry/company.

I express gratitude to other faculty members of **Department of Electrical Engineering**, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

CHAPTER 1: EXECUTIVE SUMMARY

Aviro Energy India Pvt Ltd was established in 2006 by Puneet Pahuja, Sudhanshu Nair. Aviro Energy India Private Limited is a Private incorporated on 03 October 2018. It is classified as Non-govt company and is registered at Registrar of Companies, Pune. Its authorized share capital is Rs. 200,000 and its paid up capital is Rs. 100,000. It is involved in Production, collection and distribution of electricity. Aviro Energy India Pvt Ltd is also working to bring down the cost of setting up solar energy systems for bulk power generation.

CHAPTER 2: ABOUT THE FIRM

1. INTRODUCTION

The company named Aviro Energy India Pvt Ltd has established in the year 2006 by Puneet Pahuja, Sudhanshu Nair. Installation of the solar panels is the doings of the company according to the area and requirement of the customers. At the beginning in Jan 2009, the revenue is quite low and not-profitable. So, it was decided to stop. But then in the month of March, the summer, company got the calls in number of tens or hundreds for the installation. The income of it got risen.

They are an approved Channel Partner of Ministry of New and Renewable Energy (MNRE), Govt. of India, which enables them to get all projects approved and directly claim capital subsidy on behalf of their clients. Capital subsidy up to 90% of the benchmark cost is available in special category states. their Solar Products are designed as per guidelines of Ministry of New and Renewable Energy (MNRE), Govt. of India and come up with sufficient warranty and quality assurance. To maintain the quality of their products they have an agreement with world class raw material supplier. Aviro Energy India Pvt Ltd has sales networks in India backed by an experienced team.

2. VISION & MISSION

Their vision is to be recognized as a global leader in the solar industry, providing sustainable, innovative and cost-effective energy solutions. In an ideal world, energy would be plentiful, cheap and renewable. At Aviro Energy India Pvt Ltd, we strive to make such a world a reality.

Aviro Energy India Pvt Ltd aims to power communities across the globe by providing clean and cost-effective solar electricity, and is committed to achieving an alternative energy source that can generate power at a levelized cost of electricity.

Aviro Energy India Pvt Ltd is also working to bring down the cost of setting up.

CHAPTER 3: ABOUT THE WORK DONE/PROJECTS

There were sites to attend. I have worked on some sites with the team. Here are some site work details I have been assisted in: -

1. Site 1

| | | |
|------------------------------|---|-------------------------|
| Name of the site | : | ARIHANT HOSPITAL |
| Date | : | 06/12/2022 - 16/12/2022 |
| Total No. of KW | : | 58 KW |
| Total No. of Panel Installed | : | 243 panels |
| Type of Solar Panel | : | Monocrystalline |
| Tilt Angle of Panel | : | 17° |
| Number of Days Required | : | 10 Days |

2. Site 2

| | | |
|------------------------------|---|-------------------------|
| Name of the site | : | CAPITOL HEIGHTS |
| Date | : | 19/12/2022 – 23/12/2022 |
| Total No. of KW | : | 7 KW |
| Total No. of Panel Installed | : | 33 panels |
| Type of Solar Panel | : | Monocrystalline |
| Tilt Angle of Panel | : | 30° |
| Number of Days Required | : | 5 days |

3. Site 3

| | | |
|------------------------------|---|-------------------------|
| Name of the site | : | REGENTA |
| Date | : | 06/01/2023 – 10/01/2023 |
| Total No. of KW | : | 15 KW |
| Total No. of Panel Installed | : | 68 panel |
| Type of Solar Panel | : | Monocrystalline |
| Tilt Angle of Panel | : | 22° |
| Number of Days Required | : | 8 days |

4. Site 8

| | |
|------------------------------|---------------------------|
| Name of the site | : DRAVYA PRIDE |
| Date | : 26/12/2022 – 03/01/2023 |
| Total No. of KW | : 12 KW |
| Total No. of Panel Installed | : 107 panel |
| Type of Solar Panel | : Monocrystalline |
| Tilt Angle of Panel | : 18° |
| Number of Days Required | : 5 days |

5. Site 5

| | |
|------------------------------|---------------------------|
| Name of the site | : REGENTA |
| Date | : 06/01/2023 – 10/01/2023 |
| Total No. of KW | : 15 KW |
| Total No. of Panel Installed | : 68 panel |
| Type of Solar Panel | : Monocrystalline |
| Tilt Angle of Panel | : 22° |
| Number of Days Required | : 8 days |

6. Site 6

| | |
|------------------------------|---------------------------|
| Name of the site | : GANGAKASHI |
| Date | : 06/01/2023 – 10/01/2023 |
| Total No. of KW | : 15 KW |
| Total No. of Panel Installed | : 68 panel |
| Type of Solar Panel | : Monocrystalline |
| Tilt Angle of Panel | : 22° |
| Number of Days Required | : 8 days |

CHAPTER 4: SWOC ANALYSIS

The framework of the SWOT analysis in this study is presented Fig. 1 in the form of a quadrant map concerning the PV solar power development in Africa. The section proceeds in detailed discussions on those factors. Strengths are those qualities which distinguish or give an edge to the organization over other organizations.

Strengths

1. Rich solar resource.
2. Rich land resource.
3. Suitable application for distributed PV power systems.

Weaknesses

1. Small scale of renewable energy investment.
2. Short of the foundation of the PV industrial chain.
3. Insufficient awareness of environmental and social benefits of solar PV power.

Opportunities

1. Increasing gap between power supply and demand.
2. Increasing worldwide awareness of climate change.
3. Rapid decrease of PV price around the world

Challenges

1. Dominant position of the fossil fuels.
2. Potential ecological impacts associated with solar PV development.
3. Discontinuity of energy policies.

CHAPTER 5: LEARNING

SOLAR CELL

A solar cell (photovoltaic cell or photoelectric cell) is a solid-state electrical device that converts the energy of light directly into electricity by the photovoltaic effect. The energy of light is transmitted by photons—small packets or quantum's of light. Electrical energy is stored in electromagnetic fields, which in turn can make a current of electrons flow.

Assemblies of solar cells are used to make solar modules which are used to capture energy from sunlight (Fig. 1). When multiple modules are assembled together (such as prior to installation on a pole-mounted tracker system), the resulting integrated group of modules all oriented in one plane is referred as a solar panel. The electrical energy generated from solar modules, is an example of solar energy. Photovoltaic is the field of technology and research related to the practical application of photovoltaic cells in producing electricity from light, though it is often used specifically to refer to the generation of electricity from sunlight. Cells are described as photovoltaic cells when the light source is not necessarily sunlight. These are used for detecting light or other electromagnetic radiation near the visible range, for example infrared detectors, or measurement of light intensity.

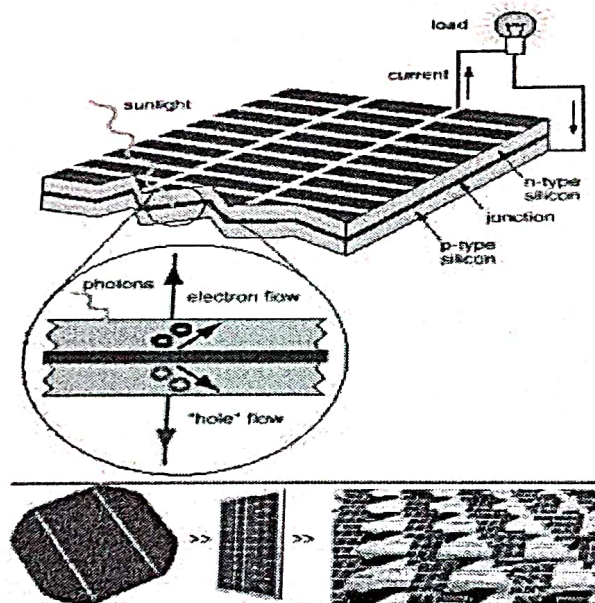


Fig. 1

HISTORY AND DEVELOPMENT OF SOLAR PANEL TECHNOLOGY

The development of solar panel technology began with the 1839 research of French physicist Antoine-César Becquerel. Becquerel observed the photovoltaic effect while experimenting with a solid electrode in an electrolyte solution when he saw a voltage develop when light fell upon the electrode. The major events are discussed briefly below, and other milestones can be accessed by clicking on the image shown below.

- **Charles Fritts - First Solar Cell:** The first genuine solar cell was built around 1883 by Charles Fritts, who used junctions formed by coating selenium (a semiconductor) with an extremely thin layer of gold. The device was only about 1 percent efficient.
- **Albert Einstein - Photoelectric Effect:** Albert Einstein explained the photoelectric effect in 1905 for which he received the Nobel Prize in Physics in 1921.
- **Russell Ohl - Silicon Solar Cell:** Early solar cells, however, had energy conversion efficiencies of under one percent. In 1941, the silicon solar cell was invented by Russell Ohl.
- **Gerald Pearson, Calvin Fuller and Daryl Chapin - Efficient Solar Cells:** In 1954, three American researchers, Gerald Pearson, Calvin Fuller and Daryl Chapin, designed a silicon solar cell capable of a six percent energy conversion efficiency with direct sunlight. They created the first solar panels. Bell Laboratories in New York announced the prototype manufacture of a new solar battery. Bell had funded the research. The first public service trial of the Bell Solar Battery began with a telephone carrier system (Americus, Georgia) on October 4 1995.

SOLAR PANEL

A term solar panel is can be said for a pv module. A solar panel, or photo-voltaic (PV) module, is an assembly of photo-voltaic cells mounted in a framework for installation. These cells are arranged in grid like pattern on the surface of solar panel. Solar panels use sunlight as a source of energy and generate direct current electricity. A collection of PV modules is called a PV Panel, and a system of Panels is an Array. Arrays of a photovoltaic system supply solar electricity to electrical equipment.

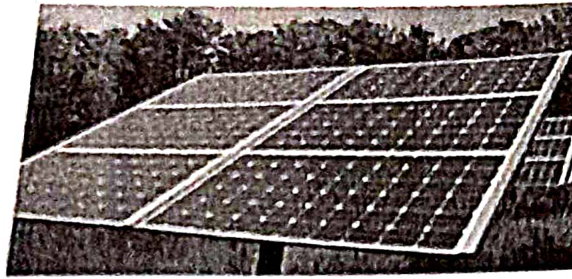


Fig. 2

Photovoltaic modules use light energy (photons) from the Sun to generate electricity through the photovoltaic effect. Most modules use wafer-based crystalline silicon cells or thin-film cells. The structural (load carrying) member of a module can be either the top layer or the back layer. Cells must be protected from mechanical damage and moisture. Most modules are rigid, but semi-flexible ones based on thin-film cells are also available. The cells are connected electrically in series, one to another to the desired voltage, and then in parallel to increase amperage. The wattage of the module is the mathematical product of the voltage and the amperage of the module. The manufacture specifications on solar panels are obtained under standard condition which is not the real operating condition the solar panels are exposed to on the installation site.^[9]

A PV junction box is attached to the back of the solar panel and functions as its output interface. External connections for most photovoltaic modules use MC4 connectors to facilitate easy weatherproof connections to the rest of the system. A USB power interface can also be used.

Module electrical connections are made in series to achieve a desired output voltage or in parallel to provide a desired current capability (amperes) of the solar panel or the PV system. The conducting wires that take the current off the modules are sized according to the ampacity and may contain silver, copper or other non-magnetic conductive transition metals. Bypass diodes may be incorporated or used externally, in case of partial module shading, to maximize the output of module sections still illuminated.

Some special solar PV modules include concentrators in which light is focused

by lenses or mirrors onto smaller cells. This enables the use of cells with a high cost per unit area (such as gallium arsenide) in a cost-effective way.

Solar panels also use metal frames consisting of racking components, brackets, reflector shapes, and troughs to better support the panel structure

HOW SOLAR PANELS ARE MADE

At the most basic level, the key components of a solar panel are solar PV cells, polysilicon or silicon, metal, and glass. The most important component is the solar cells which convert sunlight into usable energy. Solar cells are the photovoltaic (PV) component of solar panels, meaning they produce energy from the sun.

Solar cells are made up of silicon and are protected by a sheet of glass over the panels which allows sunlight to be filtered to the cells. When exposed to sunlight, solar silicon dioxide cells generate an electric current, which is then converted to usable AC electricity via an inverter.

Solar cells are assembled using wiring that transfers the electricity. This wiring is soldered to the cells which are then assembled between a back-sheet and the glass that protects the cells. The entire panel is held together with a metal frame. This is an oversimplified process for how solar panels are made, so let's break down the manufacturing process step by step for a better understanding.

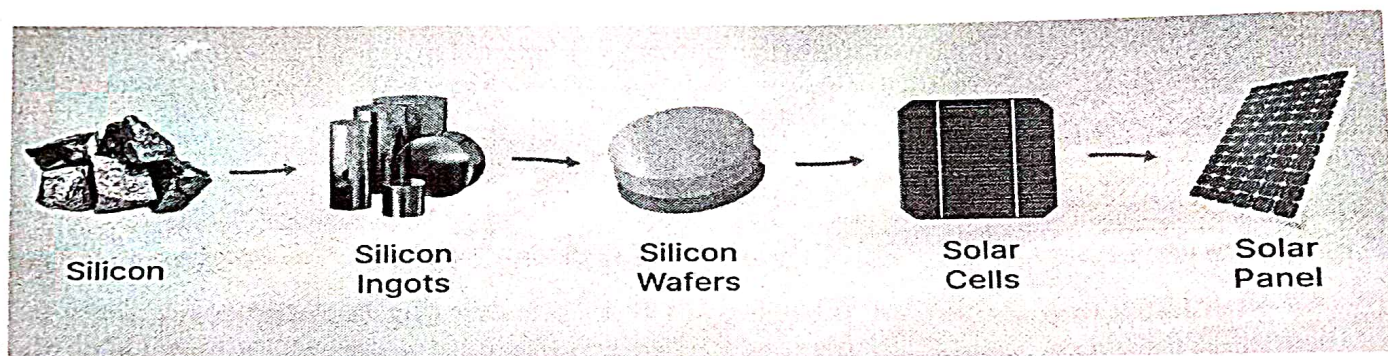


Fig. 3

Step 1: Build solar silicon cells that are either p-type or n-type meaning positively or negatively charged. P-type silicon cells were the traditional structure of solar cells. A p-type silicon cell is built on a positively charged base, meaning the bottom layer is mixed with boron and the top layer is mixed with phosphorus. But the n-type cell is

built oppositely, with the phosphorus serving as the base. The main difference is that n-type cells offer more efficiency and they are not affected by light-induced degradation, or reduction in output when exposed to extreme sunlight. Solar cells are made with crystalline silicon that is melted and mixed with gallium or boron to form wafers. Phosphorous is then added to the silicon, and along with the gallium or boron, these substances give silicon its electrical capability. The silicon ingot is then cut into thin sheets and an anti-reflective coating is applied to capture the sunlight instead of reflecting it away from the panels. Thin lines are then cut into the cells to capture and move the electrical current within the cell. The solar cells become semiconductors of electricity which is generated by the photovoltaic effect, when the sunlight's photons are absorbed, electrons then drift within the solar cells to create energy. Monocrystalline solar panels are formed from one silicon fragment but for polycrystalline panels, many silicon fragments are melted together in one large sheet to form the silicon wafers for the solar panel.

Step 2: Solder solar cells together to form one panel, usually 60 or 72 solar cells form one panel

Step 3: Install the back-sheet which protects the bottom of the solar cells

Step 4: Install glass front. This allows light to filter through to the solar cells and provides a protective layer

Step 5: Seal a metal frame around the panel with silicon to fuse all of the layers together

Step 6: Install the junction box which protects the solar panel's electrical wires from damage

Step 7: Test solar panel for quality and strength before shipping out for use

After testing solar panels for quality, they are ready to be shipped out and installed on homes or for solar farm use. The manufacturing process for different types of solar panels is pretty similar, but there are a few types of solar panels and each type has its own strengths.

THEORY AND CONSTRUCTION

Photovoltaic modules consist of a large number of solar cells and use light energy (photons) from the Sun to generate electricity through the photovoltaic effect. Most modules use wafer-based crystalline silicon cells or thin-film cells. The structural (load carrying) member of a module can be either the top layer or the back layer. Cells

must be protected from mechanical damage and moisture. Most modules are rigid, but semi-flexible ones based on thin-film cells are also available. The cells are usually connected electrically in series, one to another to the desired voltage, and then in parallel to increase current. The power (in watts) of the module is the mathematical product of the voltage (in volts) and the current (in amperes), and depends both on the amount of light and on the electrical load connected to the module. The manufacturing specifications on solar panels are obtained under standard conditions, which are usually not the true operating conditions the solar panels are exposed to on the installation site.

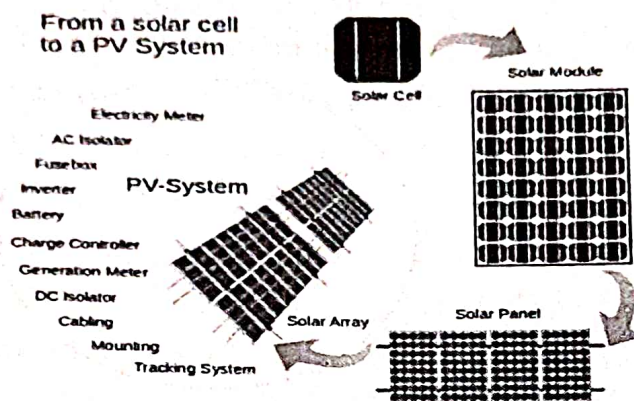


Fig. 4

A PV junction box is attached to the back of the solar panel and functions as its output interface. External connections for most photovoltaic modules use MC4 connectors to facilitate easy weatherproof connections to the rest of the system. A USB power interface can also be used. Solar panels also use metal frames consisting of racking components, brackets, reflector shapes, and troughs to better support the panel structure.

COMPONENTS OF SOLAR PANEL

- Solar photovoltaic cells
- Toughened Glass - 3 to 3.5mm thick
- Extruded Aluminum frame
- Encapsulation - EVA film layers
- Polymer rear back-sheet
- Junction box - diodes and connectors

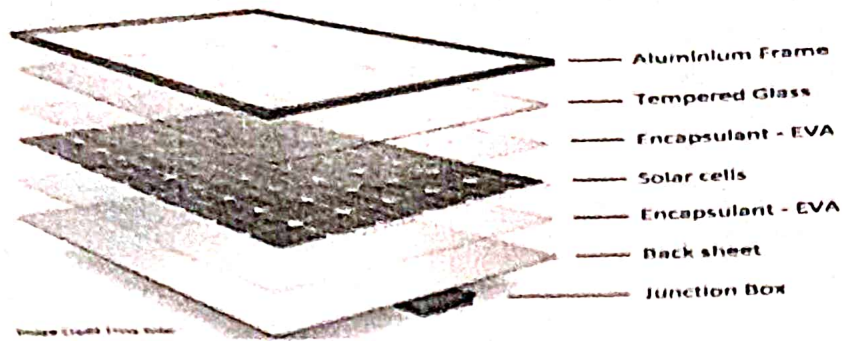


Fig. 5

Many well-known solar panel manufacturers are 'vertically integrated' which means the one company supplies and manufactures all the main components including the silicon ingots and wafers used to make the solar PV cells. However, many panel manufacturers assemble solar panels using externally sourced parts including cells, polymer back sheet and encapsulation EVA material. These manufacturers can be more selective about which components they chose but they do not always have control over the quality of the products so they should be sure they use the best suppliers available.

SOLAR PANEL SYSTEM INSTALLATION PROCESS

The most common location for the installation of solar PV panels is the roof. Most roofs typically have the desired specifications for the installation, so that panels get the maximum sunlight.

Nevertheless, if installation on the roof is not applicable or desired, the solar panels could also be mounted on the ground. You just need to make sure that there are no objects blocking access to the sun.

The following steps explain solar panel installation on a roof:

1. Set Up Scaffolding

Firstly, you have to erect scaffolding to ensure safety during the whole installation process when being on the roof.

2. Install Solar Panel Mounts

Then, the solar panel mounting system has to be set up. This will support the base of the solar panels. The whole mounting structure must be tilted and have an angle between 18° to 36° to have maximum sunlight exposure.

3. Install the Solar Panels

When the mounts are set up, the solar panel itself has to be installed on the mounting structure. Make sure to tighten up all the bolts and nuts so that it stays stable.

4. Wire the Solar Panels

The next step in the installation process is to install the electrical wiring. In most cases, MC4 connectors are used because they are suited for all types of solar panels. Make sure to shut off the household's electricity supply during the wiring installation.

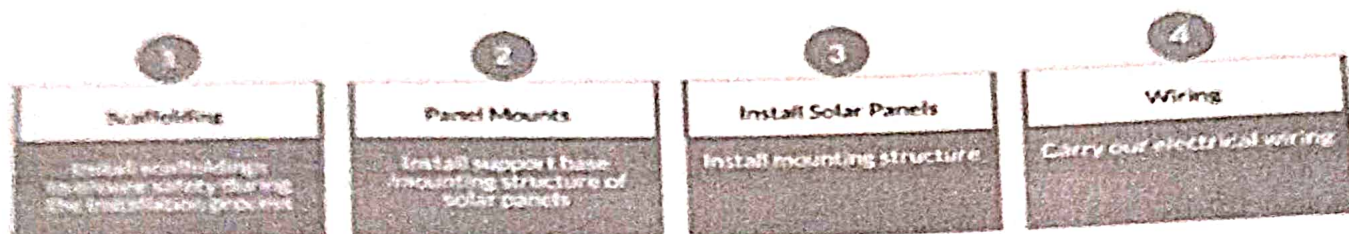


Fig. 6

5. Install Solar Inverter

After that, the solar inverter must be connected to the system. It is typically installed near the main panel and it could be both indoors and outdoors. Inverters are more efficient if kept in a cooler place.

If the inverter is outdoors, it should be kept out from afternoon sun. If it is installed indoors, the garage or utility room are usually the best places, since they stay cool for most of the year and have ventilation.

6. Bond Solar Inverter and Solar Battery

Thereafter, the solar inverter has to be connected to the solar battery. The solar battery storage can save you from worrying about the lack of usable energy during cloudy times, it can also lower the solar battery storage system costs during installation.

7. Connect the Inverter to the Consumer Unit

The inverter should be connected to the consumer unit to generate electricity. A generation meter should also be connected to monitor the amount of

electricity the solar panels actually produce. You can use your computer or other device to check your solar system's performance. For example, you can check how much electricity you generate at different times and decide what time is suitable for using your washing machine or other utilities.

8. Start and Test Solar Panels

The final step is to switch the power on and test the newly installed solar panel system. After that, the solar panel installation process is completed.

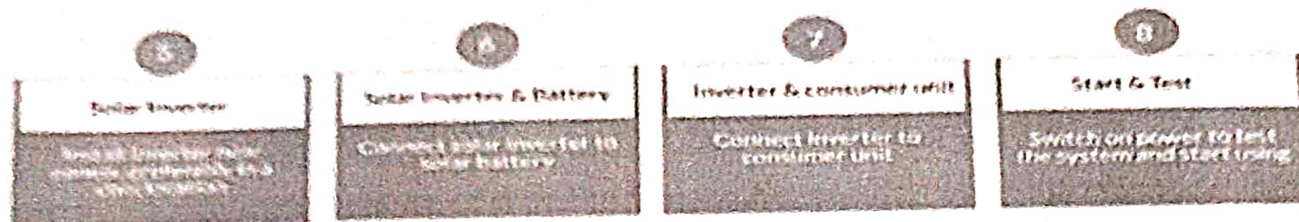


Fig. 7

CLASSIFICATION OF SOLAR PANELS

Several companies have begun embedding electronics into PV modules. This enables performing MPPT for each module individually, and the measurement of performance data for monitoring and fault detection at module level. Some of these solutions make use of power optimizers, a DC-to-DC converter technology developed to maximize the power harvest from solar photovoltaic systems. As of about 2010, such electronics can also compensate for shading effects, wherein a shadow falling across a section of a module causes the electrical output of one or more strings of cells in the module to fall to zero, but not having the output of the entire module fall to zero.

- Monocrystalline solar panels
 - a. Polycrystalline solar panels
 - b. Monocrystalline solar panel
 - c. 2nd generation solar panel
 - d. 3rd generation solar panel

a. Polycrystalline solar panels

Polycrystalline solar panels generally have lower efficiencies than monocrystalline options, but their advantage is a lower price point. In addition, polycrystalline solar panels tend to have a blue hue instead of the black hue of monocrystalline panels.

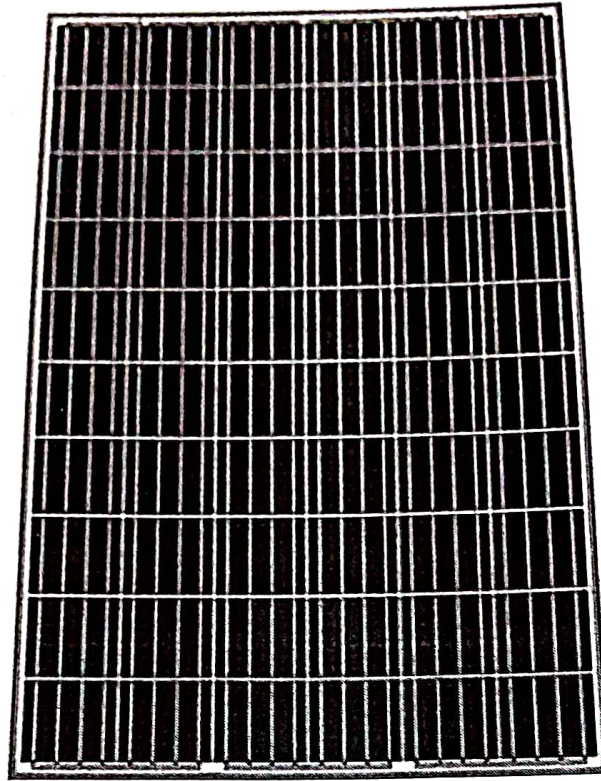


Fig. 8

Polycrystalline solar panels are also made from silicon. However, instead of using a single crystal of silicon, manufacturers melt many fragments of silicon together to form the wafers for the panel. Polycrystalline solar panels are also referred to as “multi-crystalline,” or many-crystal silicon. Because there are many crystals in each cell, there is less freedom for the electrons to move. As a result, polycrystalline solar panels have lower efficiency ratings than monocrystalline panels.

Poly panel have solar cell made from many silicon fragments melted together.

b. Monocrystalline solar panel

Monocrystalline solar panels are generally thought of as a premium solar product. The main advantages of monocrystalline panels are higher efficiency

and sleeker aesthetics.

To make solar cells for monocrystalline solar panels, silicon is formed into bars and cut into wafers. These types of panels are called "monocrystalline" to indicate that the silicon used is single-crystal silicon. Because the cell is composed of a single crystal, the electrons that generate a flow of electricity have more room to move. As a result, monocrystalline panels are more efficient than their polycrystalline counterparts.

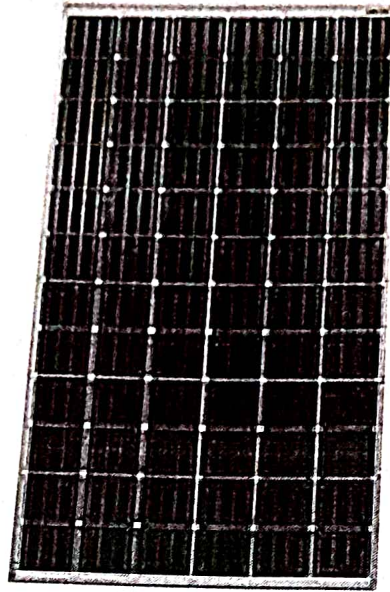


Fig. 9

Mono panel have solar cell made from a single crystal of silicon.

c. **2nd generation solar panel**

These cells are different types of thin film solar cells and are mainly used for photovoltaic power stations, integrated in buildings or smaller solar systems.

- **Thin-Film Solar Panel TFSC**

If you are looking for a less expensive option, you might want to look into thin-film. Thin-film solar panels are manufactured by placing one or more films of photovoltaic material (such as silicon, cadmium or copper) onto a substrate. These types of solar panels are the easiest to produce and

economies of scale make them cheaper than the alternatives due to less material being needed for its production.

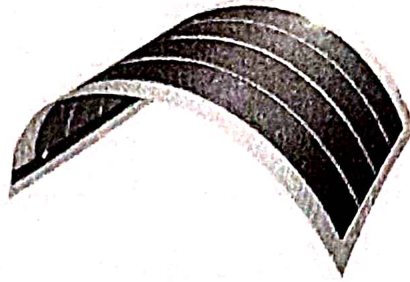


Fig. 10

They are also flexible—which opens a lot of opportunities for alternative applications—and is less affected by high temperatures. The main issue is that they take up a lot of space, generally making them unsuitable for residential installations. Moreover, they carry the shortest warranties because their lifespan is shorter than the mono- and polycrystalline types of solar panels. However, they can be a good option to choose among the different types of solar panels where a lot of space is available.

- **Amorphous Silicon Solar**

The amorphous silicon solar cell is among the different types of solar panels, the one that is used mainly in such pocket calculators. This type of solar panel uses a triple layered technology, which is the best of the thin film variety. Just to give a brief impression of what “thin” means, in this case, we’re talking about a thickness of 1 micrometer (one millionth of a metre). With only 7% efficiency rate, these cells are less effective than crystalline silicon ones—that have an efficiency rate of circa 18%—but the advantage is the fact that the A-Si-Cells are relatively low in cost.

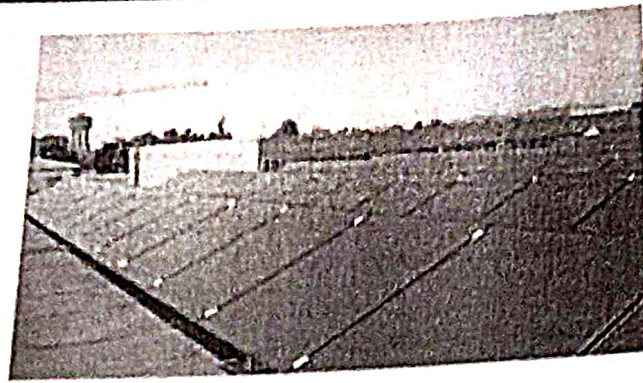


Fig. 11

d. 3rd generation solar panel

3rd generation solar panels include a variety of thin film technologies but most of them are still in the research or development phase. Some of them generate electricity by using organic materials, others use inorganic substances (CdTe for instance).

- **Biohybrid Solar Panel**

The Biohybrid solar cell is one of the types of solar panels, that is still in the research phase. It has been discovered by an expert team at Vanderbilt University. The idea behind the new technology is to take advantage of the photosystem 1 and thus emulate the natural process of photosynthesis.

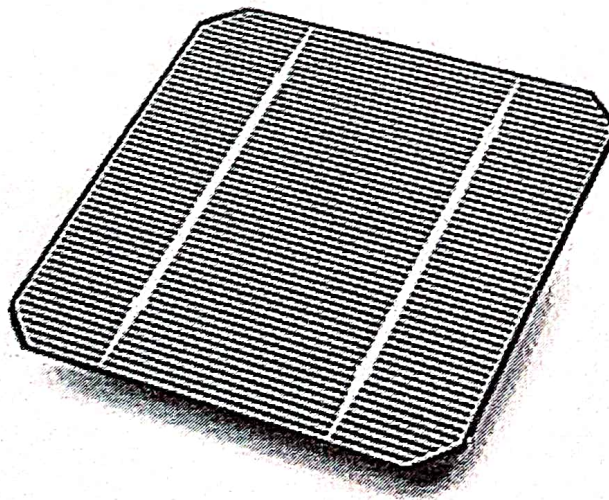


Fig. 12

In case you want to learn more about how the biohybrid solar cell works in detail, read more about it in the American Journal of Optics and Photonics. It explains more detailed how these cells work. Many of the materials being used

in this cell are similar to the traditional methods, but only by combining the multiple layers of photosystem 1, the conversion from chemical to electrical energy becomes much more effective (up to 1000 times more efficient than 1st generation types of solar panels).

- **Cadmium Telluride Solar Panel (CdTe)**

Among the collection of different types of solar panels, this photovoltaic technique uses Cadmium Telluride, which enables the production of solar cells at relatively low cost and thus a shorter payback time (less than a year). Of all solar energy technologies, this is the one requiring the least amount of water for production.

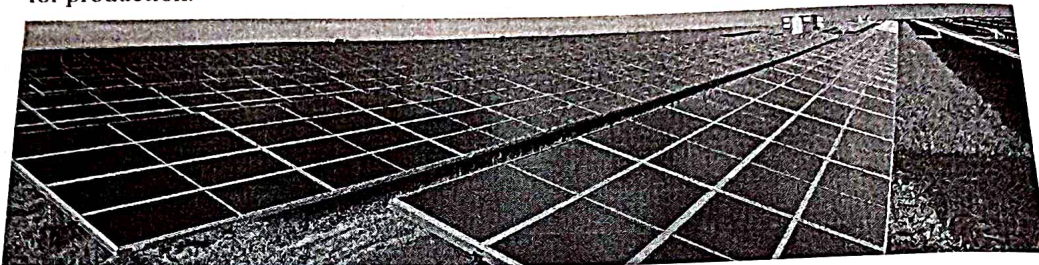


Fig. 13

Keeping the short energy payback time in mind, CdTe solar cells will keep your carbon footprint as low as possible. The only disadvantage of using Cadmium Telluride is its characteristic of being toxic, if ingested or inhaled. In Europe especially, this is one of the greatest barriers to overcome, as many people are very concerned about using the technology behind this type of solar panel.

- **Concentrated PV Panel (CVP and HCVP)**

Concentrated PV cells generate electrical energy just as conventional photovoltaic systems do. Those multi-junction types of solar panels have an efficiency rate up to 41%, which, among all photovoltaic systems, is the highest so far.

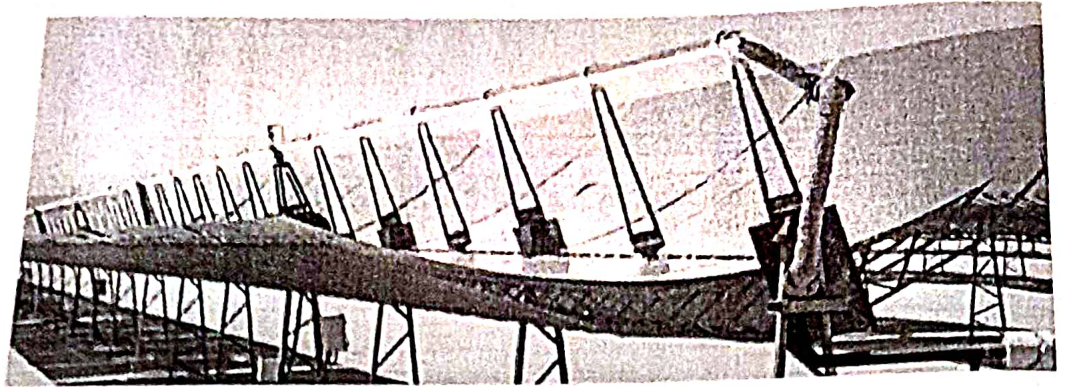


Fig. 14

The name of such CVP cells is related to what makes them so efficient, compared to other types of solar panels: curved mirror surfaces, lenses and sometimes even cooling systems are used to bundle the sun rays and thus increase their efficiency. By this means, CVP cells have become one of the most efficient solar panels, with a high performance and efficiency rate of up to 41%. What remains is the fact, that such CVP solar panels can only be as efficient if they face the sun in a perfect angle. In order to reach such high efficiency rates, a solar tracker inside the solar panel is responsible for following the sun.

ADVANTAGES AND DISADVANTAGES

Advantages

The more we can capture the benefits of solar energy, the less we will rely on fossil fuels. Adding a solar energy system to your home allows you to tap into these solar energy advantages:

1. Solar energy is a renewable energy source and reduces carbon emissions

Solar energy is a renewable energy source, meaning you don't ever use it up. Solar energy is clean. It creates no carbon emissions or other heat-trapping "greenhouse" gases. It avoids the environmental damage associated with mining or drilling for fossil fuels. Furthermore, solar energy also uses little to no water, unlike power plants that generate electricity using steam turbines.

2. Solar energy can reduce your home's electricity bill

A solar energy system for your home can reduce your reliance on the grid and help you save on your electricity bill. Some owners of residential solar energy systems may even have excess power that they can sell to the utility. Instead of paying a utility for electricity, homeowners get paid by the utility. You may not have to buy an entire solar energy system to cut your home's electricity bill. Simply choose solar lights, lights that are powered by the sun instead of your home's electrical system, to help save money.

3. Solar power can get you money back through Solar Renewable Energy Credits (SRECs)

Some states offer solar renewable energy certificates (SREC). Each one represents a megawatt-hour of electricity generated through solar energy. Electricity suppliers buy these certificates to satisfy their state's Renewable Portfolio Standard, a requirement that a certain amount of their renewable energy come from solar. You can sell SRECs for your system's output, which is another way to earn money from your investment.

4. Homes with solar panels installed may improve home value

Home buyers will likely pay more for a house with solar panels installed. Considering solar energy pros and cons, the savings on electricity bills and the money earned selling power back to the utility, all count in the plus column. Residential solar energy systems are highly valued and can increase a home's resale value. The property value of a home with solar panels can be worth up to \$15,000 more than its neighbours.

Solar systems are fairly easy to install and require very little maintenance. Both are handled by your solar provider, if you opt for a solar lease or power purchase agreement (PPA). Consider this as you ask yourself is solar energy worth it.

5. Solar panels have low maintenance costs

Solar panels are easy to maintain, as they have no moving parts that wear out over time. Just keep them clean and in good physical condition to keep them working properly. Between their low maintenance costs and average lifespan of 25 years, it can be easy to get your money's worth when investing in solar panels.

6. Solar energy can generate electricity in any climate

Solar energy systems can generate electricity in any climate. One of the disadvantages of solar energy is that it's subject to temporary weather disruption. Cloudy days reduce the amount of electricity you produce. Cold, however, doesn't affect productivity. Snowfall can actually help your solar system, as the snow cleans the panels as it melts and sun reflected off the snow increases the amount of light hitting your panels. The result is more electricity production.

Disadvantages

The disadvantages of solar energy are becoming fewer as the industry advances and grows, creating economies of scale. Technological advances are helping solar go mainstream. Here are how the disadvantages of solar energy and the pros and cons stack up.

1. The high initial costs of installing panels

The most commonly cited solar energy disadvantage, cost, is declining as the industry expands. The initial cost to buy and install the equipment is not cheap. Still, if cost is an issue, leasing options may reduce the amount of your initial outlay. If you do choose to buy, you will need to live in your home for a number of years before the system pays for itself. It's a long-term investment better suited to property owners than renters.

2. Solar energy storage is expensive

Of the disadvantages of solar energy, the temporary decline in energy production during bad weather has been a major issue. Days with low solar energy, however, are having less of an effect due to advances in battery technology. Old technology for storing solar energy, like lead acid batteries are being replaced by alternatives. Lithium ion batteries offer greater power at a lower cost. Nickel-based batteries have an extremely long life. New technologies, like flow batteries, promise scale and durable power storage.

3. Solar doesn't work for every roof type

Not every room will work well with solar panels. Orientation matters. If your roof doesn't face the sun, you won't be able to capture enough solar energy. Roofs that angle into the sun tend to work better than flat roofs.

Roofing materials like asphalt shingles, metal and tiles make installing solar panels easier. If your room is made with other materials, installation may be

more expensive. Part of what makes energy-efficient roofs is their ability to support solar panels.

4. Solar panels are dependent on sunlight

It's obvious that solar panels need sunlight to generate electricity. They won't produce electricity at night when you need it for light and they can be inefficient during storms and gloomy days. Your solar energy system needs batteries if you plan to fully depend on solar energy to power your home.

APPLICATIONS

There are many practical applications for the use of solar panels or photovoltaics. It can first be used in agriculture as a power source for irrigation. In health care solar panels can be used to refrigerate medical supplies. It can also be used for infrastructure. PV modules are used in photovoltaic systems and include a large variety of electric devices:

- **Solar canals**

A solar canal is a canal fitted with solar panels, increasing their efficiency, and reducing evaporation and land usage. The first operative system was installed in Gujarat, India in 2014.

Solar canals are costlier to install than land-based solar collectors. They also incur higher maintenance costs. Canals that are quite narrow or quite wide can add to the costs of solar canals.

- **Photovoltaic power stations**

A photovoltaic power station, also known as a solar park, solar farm, or solar power plant, is a large-scale grid-connected photovoltaic power system (PV system) designed for the supply of merchant power. They are different from most building-mounted and other decentralized solar power because they supply power at the utility level, rather than to a local user or users.

- **Rooftop solar PV systems**

FIELD PROJECT REPORT

on

“PEE VEE Textiles Pvt.Ltd”

Submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Technology

In

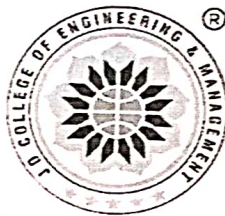
Electrical Engineering

Submitted by:

Roll no. 24 to 44

Under the Guidance of

Prof. Mandar Isasare



Education to Eternity

Department Of Electrical Engineering
J D College of Engineering and Management, Nagpur-441501


(An Autonomous Institute, with NAAC "A" Grade)
Affiliated to DBATU ,Lonere

Year 2021-22

CERTIFICATE

This is to certify that the filed visit report on, "PEE VEE Textiles Pvt.Ltd" in the subject Electrical Engineering in the faculty of Science and Technology submitted by following students to DRATU ,Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision.

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| 26 | ROHINI VASANTA RAMTEKE | 42 | JAMBHUJ KAR PRIYANKA DHANRAJ |
| 27 | SAHIL ARVIND CHOLE | 43 | JYOTSANA DINANATH GOURKAR |
| 28 | SAHIL PRAKASH DHUNGE | 44 | KONIKA UMESH MASRAM |
| 29 | SHIVANI MILIND DHENGARE | | |
| 30 | SNEHA MAHENDRA RANSOD | | |
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| 32 | TEJASVINI MORESHWAR WAKALKAR | | |
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| 34 | CHETANA RAJKUMAR BANGARE | | |
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Date:21/05/2021

ACKNOWLEDGEMENT

I express our sincere gratitude, for giving us the opportunity to work in the industry. I owe our sincerest gratitude towards **Dr. S. V. Sonekar**, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

The constant guidance and encouragement received from **Dr. S.R.Vaishnav**, Head, **Department of Electrical Engineering**, J D College of Engineering & Management, Nagpur, has been of great help in carrying out during the internship and is acknowledged with reverential thanks.

I would like to thank **Prof. Mandar S. Isasare**, Departmental Internship Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of internship.

Without his wise counsel and able guidance, it would have been impossible to complete the internship in this manner.

I would like to thank **Mr. Sudhir Khair**, **PEE VEE Textiles Pvt.Ltd** for giving me the opportunities to work in the industry/company.

I express gratitude to other faculty members of **Department of Electrical Engineering**, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

CHAPTER I: EXECUTIVE SUMMARY

- This internship report stresses on the work experience I have gathered as an Internship in the PEE VEE TEXTILES Industries. Maintenance department of PEE VEE TEXTILES LTD industries from December 01, 2022 until February 28, 2023.
- In this report, I mainly have incorporated my knowledge under maintenance department of the industry. Campaign management, research and development works etc.
- Where I also have provided details about My 3 months' work experience at PEE VEE TEXTILES industries along with a comprehensive work description where I had to Work with different local industry in the nearby local area and an analysis on the roles of Handling Cotton Manufacturing machines and Maintenance work.

CHAPTER 2: ABOUT THE FIRM

a. Brief history

Pee Vee Textiles Limited (PVTL), manufacturing activity was incorporated in March 1990, belonging to the Mohota family of Hinganghat, Maharashtra. Consequent upon realignment in the family in 1994, the management of PVTL vested into the hands of Late Mr Gwaldas Mohota and his son Mr Arun Kumar Mohota.

PVTL was initially set up as a spinning unit with an installed capacity of 7680 spindles in March 1990 at Jamb, District Wardha, Maharashtra for manufacturing of cotton and synthetic blended yarn.

The Company went on continuously modernising and expanding its capacity from 1993.

Presently the Company is having an installed capacity of 120,000 spindles, 1080 Rotors, 544 Vortex Position and 568 Airjet looms.

It currently manufactures synthetic / cotton blended & 100% Cotton / Compact yarn and Grey fabric.

PVTL is one of the largest manufacturers of grey fabric with exports constituting more than 40% of its total turnover. It has a well-established position in the market and has a very favorable reputation as well as the capability to deliver high volumes at relatively short notice.

b. Introduction of the organization

Pee vee textiles private limited, JAMB Established in the year of 1990 is located at N. H. 7 Jamb Road, Samudrapur, belonging to mohata family Of Hinganghat, Maharashtra. Basically it is Cotton Manufacturing company

The Company is a Government recognised Star Export House having ISO 9001:2015 certification.

This company is divided in various Department like, Electrical lab, Machanical, And Cotton testing lab

c. Policy of the organization

We manufacture Cotton, PC, PV, Viscose 100%, Polyester 100% and specially Yarn like Spandex & Slub with a production capacity of around 75 Ton / day & also exporting to EU, Latin America, Middle East & Far East Countries for many years.

The Company has about 117,000 spindles, 1080 Rotors having contamination clearers of Uster & Loeplfe Make, 736 Vortex and 160 Spindles Rieter Airjet spinning with their own contamination clearer.

The Company is equipped with state of art facility from Rieter, Electrojet, Toyota & Schlafhorst. The company has invested in automated blending technology for better homogeneity and intimate blend of polyester & cotton fibres. In Poly Cotton & Cotton Section, the Company has invested in Uster Jossi Vision Shield & Magic Eye System to remove contamination to the highest level possible in Blow Room Line. Some of the earlier machines are from LMW, the best possible, in 20th Century.

ABOUT THE WORK DONE/PROJECTS

- Check/Testing supply and reading in various meter equipment.
- Fitting of MCBs and wiring to switch board in meter.
- Handling various cotton manufacturing machines.
- Working on star delta timer motor.

A) Check/Testing supply and reading in various meter equipment

To start, let's measure voltage on a AA battery: Plug the black probe into COM and the red probe into mAVΩ. Set the multimeter to "2V" in the DC (direct current) range. Almost all portable electronics use direct current, not alternating current. Connect the black probe to the battery's ground or '-' and the red probe to power or '+'. Squeeze the probes with a little pressure against the positive and negative terminals of the AA battery. If you've got a fresh battery, you should see around 1.5V on the display (this battery is brand new, so its voltage is slightly higher than 1.5V).

If you're measuring DC voltage (such as a battery or a sensor hooked up to an Arduino) you want to set the knob where the V has a straight line. AC voltage (like what comes out of the wall) can be dangerous, so we rarely need to use the AC voltage setting (the V with a wavy line next to it). If you're messing with AC, we recommend you get a non-contact tester rather than use a digital multimeter.

A) Fitting of MCBs and wiring to switch board in meter

MCB is an automatically operated electrical switch. Miniature circuit breakers are intended to prevent damage to an electrical circuit as a result of excess current. They are designed to trip during an overload or short circuit to protect against electrical faults and equipment failure.

| MCB Type | Minimum Trip Current | Maximum Trip Current |
|----------|----------------------|----------------------|
| Type B | 3 Ir | 5 Ir |
| Type C | 5 Ir | 10 Ir |
| Type D | 10 Ir | 20 Ir |

Table No.1 Types of MCB

MCBs wiring Diagram

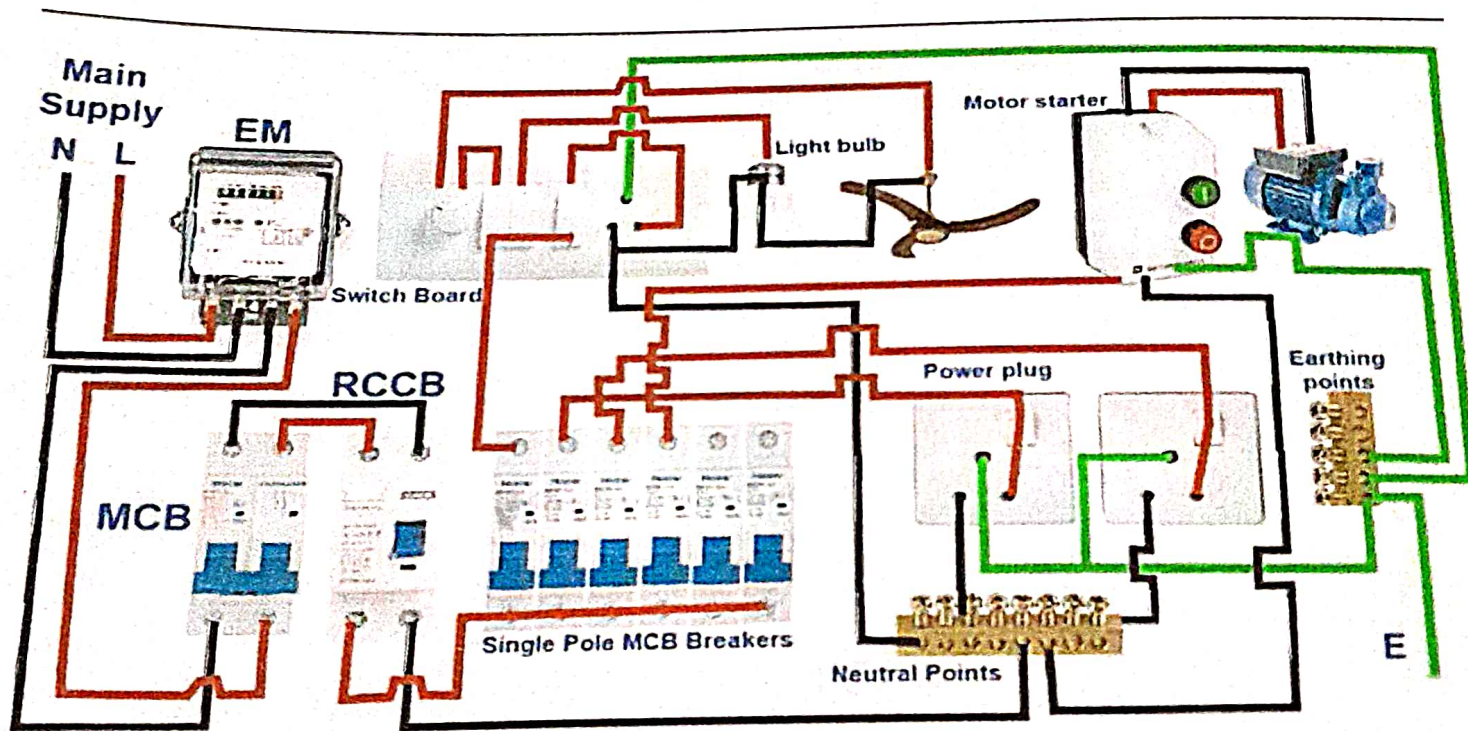


Fig.1 MCB Wiring Diagram

1. First select an MCB with a proper rating which must be appropriate with your load.
2. Check the input and output side of the MCB which may be written or printed on your MCB. If there is no mention, it is good to connect the input down the side and connect the output upside.
3. If you have multiple loads and they are connected with common neutral then make the circuit as given above.

B) Handling various cotton manufacturing machines

1) Stenter Machine:

Stenter is the most expensive and important fabric drying and finishing machine. Stenter is a machine or apparatus for stretching or stentering fabrics. It is also known as a 'tenter' in the woollen industry. The purpose of the stenter machine is to bring the length and width to pre-determined dimensions and also for heat setting and it is used for applying finishing chemicals and also shade variation is adjusted. The main function of the stenter is to stretch the fabric widthwise and to recover the uniform width.



Fig2: Stenter machine

Stenter machine consists of two endless auto-lubricated driven chains, typically 40 to 60 m in length carrying pins or clips to hold the fabric edges while passing through a number of hot-air chambers (3–5, each of about 3 m). Hot air is directed onto the fabric equally from above and below. A stenter has the provision for overfeeding the fabric to allow required shrinkage during heat setting of fabric while the width is increased to the precisely specified value by the chains. The use of clip stenter has declined because of the difficulty of applying overfeed. The stenter speed ranges from 10 m/min for heavyweight furnishing fabrics to 100 m/min for lightweight dress-goods.

2) Sueding Machine

Sueding or Peaching is a technique that creates a soft feel while touching. Sueding is a mechanical finishing process in which a fabric is abraded on one or both sides to raise or create a fibrous surface. This fibrous surface improves the fabric appearance, gives the fabric a softer, fuller hand, and can mask fabric construction and subdue coloration. These improved aesthetics can increase the value of a fabric in the marketplace. Sueding operation is done by sueder or sueding machine.

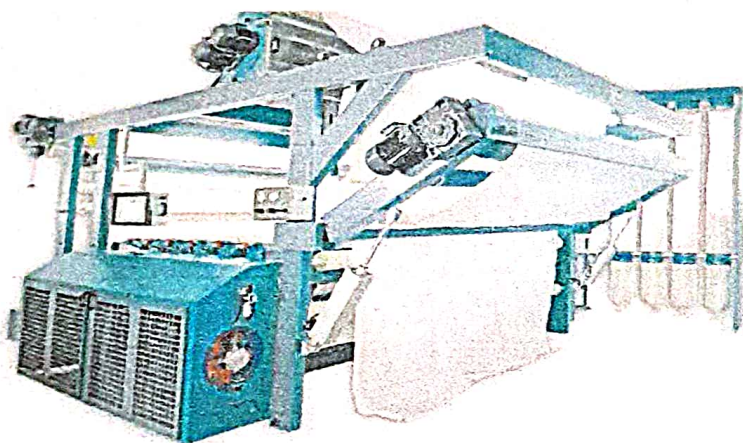


Fig 3: Sueding machine

In the textile industry, the process of sueding is also commonly known as “sanding” or “emerizing” is a process in which fabric in open width is passed over one or more rotating emery-covered rollers to produce a suede

like finish. Suede is a type of leather with a smooth nap finish. Normally this process is done only for buyer requirement.

3) Carding machine

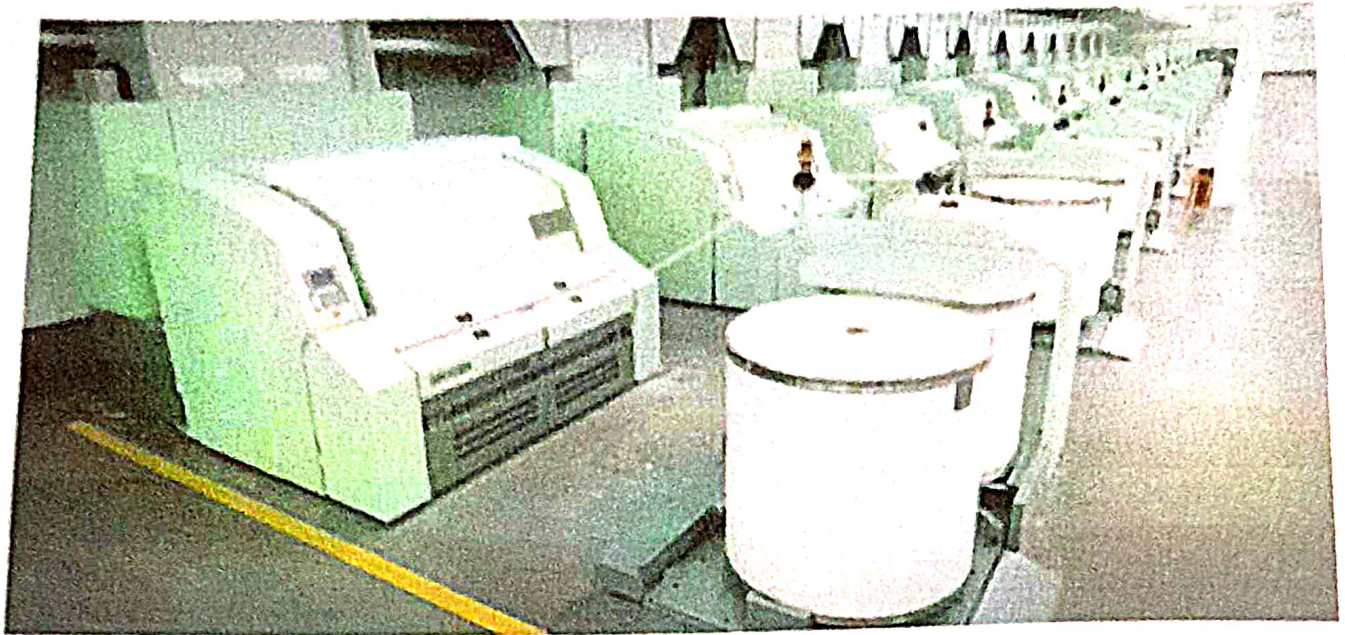


Fig No.4 Carding machine

Since the functions of the card are to place the fibres parallel and remove other impurities so that perfect fibres can be drawn in sliver, the rollers of carding machine have to be so arranged, as would perform these functions perfectly.

Carding machine consists of 3 cylinders, covered with cards. (1) Taker-in is smallest, (2) Main cylinder is the largest and (3) The doffer. The outer contact cylinder lap feeds cotton to roller C, which rotates on a smooth iron table D. Here all the dirt is removed, and the fibres are straightened by combing. The cotton then passes along these cylinders as shown by arrows. The flats further flatten the fibres and also place them loose but parallel. When these are ultimately fed to doffer, its teeth draw these in light fleece and these are then further drawn into slivers, and deposited into coiler can G.

SWOC Analysis

- **Strengths**

- Flexible labor market
- Worldwide Demand
- Involved industries increasing
- Strong backward linkage facilities

- **Weaknesses**

- Lack of modern machinery
- Unable to go with the flow
- Lack of forecasting

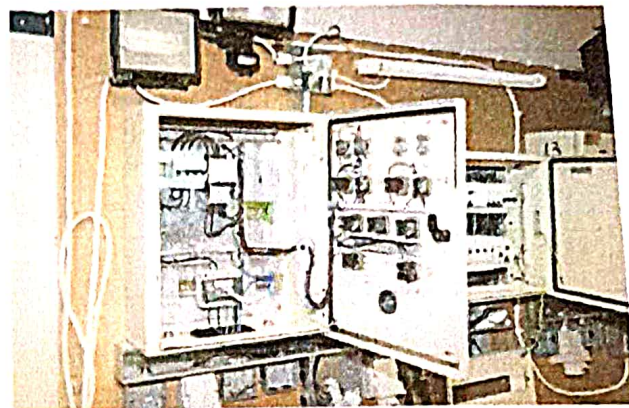
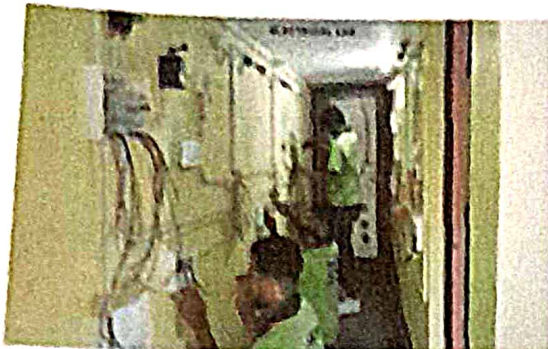
- **Opportunities**

- Buyer attention on Asian market
- Buyer initiatives for productivity
- Gov. And Non-Gov training program

LEARNING

- I have learn how to handle cotton manufacturing machines and testing cotton impurities.
- I have learn to fitting of MCBs and switch board wiring.
- I have study with how to working of Transformer and how to transformer power supply on form to another form.
- I have learn to how to work Star Delta timer Motor

PHOTO GALLERY



FIELD PROJECT REPORT

on

“Sonali Power Equipment Pvt.Ltd”

Submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Technology

In

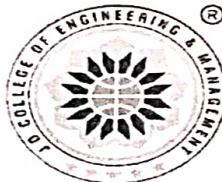
Electrical Engineering

Submitted by:

Roll no. 45 to 67

Under the Guidance of

Prof. Mandar Isasare



Education to Eternity

Department Of Electrical Engineering

J D College of Engineering and Management, Nagpur-441501

(An Autonomous Institute, with NAAC "A" Grade)

Affiliated to DBATU ,Lonere

Year 2021-22

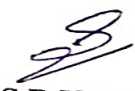
CERTIFICATE

This is to certify that the filed visit report on, "Sonali Power Equipment Pvt.Ltd" in the subject **Electrical Engineering** in the faculty of Science and Technology submitted by following students to **DBATU ,Lonere** for the award of the degree of **Bachelor of Technology** is a bonafide record of work carried out by them under my supervision.

| Roll No. | STUDENT NAME | Roll No. | STUDENT NAME |
|----------|-------------------------------|----------|-------------------------|
| 45 | MASEKAR SHASHIKANT DILIP | 61 | SHENDE BHARAT KEWALRAM |
| 46 | MASULKAR BHAGYASHALU ASHOK | 62 | SHUBHAM SURENDRA PATLE |
| 47 | MESHRAM SUSHIL SHRIKRUSHNA | 63 | SUSHANT ARUN SHAMKUWAR |
| 48 | MOTGHARE SOURABH RAJENDRA | 64 | AKSHAY BANDU TAJANE |
| 49 | NEHA VINOD ILAMKAR | 65 | TARESH DEVENDRA GADEKAR |
| 50 | PATLE MINAL JAWAHARLAL | 66 | KUNAL RAMESH TAYDE |
| 51 | PRANAV SANTOSH KATRE | 67 | YASH VINOD RAMTEKKAR |
| 52 | RANGARI PALLAVI ASHOK | | |
| 53 | RASIKA DHANRAJ NAGPURE | | |
| 54 | RITIK HEMANT MANAPURE | | |
| 55 | SAINATH PANDURANG ADE | | |
| 56 | SAKSHI PRAVINRAO SURUSHE | | |
| 57 | SANGOLE VRISHABH PRAFUL | | |
| 58 | SARVESH ASHOK GIRI | | |
| 59 | SAWAITUL MEGHA RAVINDRA | | |
| 60 | SHEIKH JAHIRRAJA BASIRMOHAMAD | | |


Prof. M. S. Isasare
Internship Coordinator, EE

Forwarded to:


Dr. S.R. Vaishnav
Head of Department
Electrical Engineering

Date:21/05/2021

ACKNOWLEDGEMENT

I express our sincere gratitude, for giving us the opportunity to work in the industry. I owe our sincerest gratitude towards **Dr. S. V. Sonekar**, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

The constant guidance and encouragement received from **Dr. S.R.Vaishnav**, Head, Department of Electrical Engineering, J D College of Engineering & Management, Nagpur, has been of great help in carrying out during the internship and is acknowledged with reverential thanks.

I would like to thank **Prof. Mandar S. Isasare**, Departmental Internship Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of internship.

Without his wise counsel and able guidance, it would have been impossible to complete the internship in this manner.

I would like to thank **Mr. A.W.Jichkar**, Sonali Power Equipment Pvt.Ltd for giving me the opportunities to work in the industry/company.

I express gratitude to other faculty members of **Department of Electrical Engineering**, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

CHAPTER 1: EXECUTIVE SUMMARY

This report contains the internship program performed in Sonali power equipment from November 19/11/2022 to February 21/02/2023. It includes the distribution transformer manufacturing process, low voltage and high voltage windings making process, connection of transformers and testing of transformer etc.

We recently have done our internship in Sonali power equipment, in which we got training from its Distribution Transformer manufacturing and maintenance. The internship basically the transformer manufacturing. The system, the style of working & the commitment of the employees in Sonali power equipment is really exemplary.

In this report we have given a very brief review of what we have seen and learnt during our internship. We have mentioned all these as we have made an internship as according to the schedule. This report will give its reader knowledge about the manufacturing of transformer in Sonali power equipment.

CHAPTER 2: ABOUT THE FIRM

- Sonali power equipment pvt ltd company has established in year 1994 for distribution transformer manufacturing.
- This company is manufacturing three phase transformers.
- Rating of 1KVA to 1MVA
- This company take order for government and private sectors.
- Industries: manufacturing of distribution transformer
- Company Employs: 20-25 Employs
- Location: S-54, Hingna, MIDC Area Nagpur - 440016 of company at MIDC Hingna Road.

CHAPTER 3: ABOUT THE WORK DONE/PROJECTS

1. Make a coils
2. Assemble the transformer
3. we have work on lamination machine
4. Work on HV winding machine
5. Work on LV winding machine
6. Testing the core winding.
7. Testing open circuit and short circuit
8. Work on oil purifying and filing machine
9. Work on double voltage, double frequency

1. coil making

Use the wire stripper to strip the insulation off the end of a long piece of copper wire. Wrap it 30 times around a cylinder of soft iron to make the solenoid. Use the alligator clips to connect the two ends of the wire into a power supply. Connect a 6-volt bulb parallel with the solenoid to make a primary coil.

Strip the ends off another long piece of wire. Wrap the wire 60 times around the same soft iron core to make the secondary coil.

Connect the two bare ends from the second piece of wire to a 6-volt bulb.

Turn on the power and join together the two soft iron cores to make the primary coil a powerful electromagnetic.

Compare the brightness of the bulbs to see that the secondary is much brighter. Repeat with 15 turns on the secondary coil and everything is much dimmer.

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Different Parts Of Transformer

Following is the list of transformer parts.

- 1) Laminated core 2) Windings 3) Insulating materials 4) Transformer oil 5) Conservator tank
6) Buchholz Relay 7) Breather 8) Cooling tubes 9) Tap Changer 10) Explosion vent

1. Laminated core

The main function of a laminated core is to separate primary and secondary windings. The core is laminated in order to reduce the core losses in a transformer. The core is generally made up of Cold Rolled Grain Oriented (CRGO) steel material. The other function of the laminated core is to allow the set-up of magnetic flux in the transformer by providing a low reluctance path and thus helps in flux linkage with the windings.

2. Windings

Generally, copper windings are used in the transformers. The main function of windings is to produce magnetic flux and induce mutual EMFs. These windings carry high voltage and current through them.

3. Insulating materials

The main function of insulating material is to provide insulation to windings so that it does not come in contact with the transformer core or other conducting material. The windings are wrapped in insulating paper or cloth.

4. Transformer oil

The main function of the transformer oil is to provide insulation as well as act as a cooling agent due to its chemical properties and dielectric strength. It dissipates heat generated from the core and windings to the environment. Hence cooling the transformer.

5. Conservator tank

The main function of a conservator tank is to provide extra space to accommodate the transformer oil during oil expansion inside the transformer when the ambient temperature rises. It is a cylindrical tank mounted on the top of the supporting structure of a transformer. It is generally half-filled with transformer oil.

Department of Electrical Engineering

6. Buchholz relay

The main function of the Buchholz relay is to protect the transformer from different internal faults such as inter-turn fault, short circuit fault, etc. It detects the occurrence of a fault and generates the alarm circuit. It is present between the main tank and the conservator tank.

7. Breather

The main function of a breather is to prevent moisture to enter the transformer during the breathing cycle of a transformer. It contains the silica gel that absorbs the moisture from the air and hence prevents transformer oil to contaminate and thereby saves the internal parts.

8. Cooling tubes

The main function of the cooling tubes is to transfer heat from the transformer core and coils to the environment. The heated transformer oil circulates through the cooling tubes where the heat radiates out by natural airflow and hence cooling the transformer oil.

9. Tap Changer

The main function of the tap changer is to regulate the transformer output voltage by altering the number of turns in one winding and thereby changing the turn ratio of the transformer.

10. Explosion vent

The main function of the explosion vent is to provide protection against excessive pressure build-up in the transformer during heavy internal faults. It allows releasing hot boiling transformer oil in order to avoid the explosion of the transformer.

Transformer Laminations

But you may be wondering as to how the primary and secondary windings are wound around these laminated iron or steel cores for these types of transformer constructions. The coils are firstly wound on a former which has a cylindrical, rectangular or oval type cross section to suit the construction of the laminated core. In both the shell and core type transformer constructions, in order to mount the coil windings, the individual laminations are stamped or punched out from larger steel sheets and formed into strips of thin steel resembling the letters "E" s, "L" s, "U" s and "T" s as shown below.

Transformer Core Types

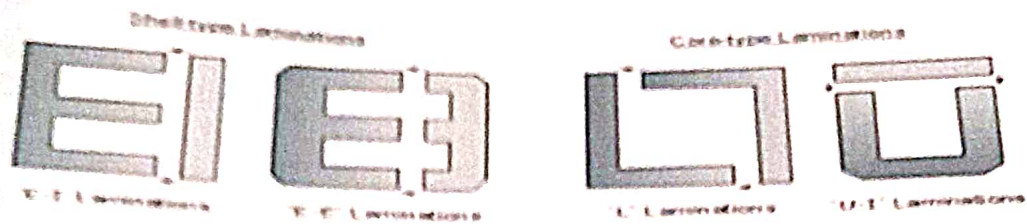


Figure 1

These lamination stampings when connected together form the required core shape. For example, two "E" stampings plus two end closing "I" stampings to give an E-I core forming one element of a standard shell-type transformer core. These individual laminations are tightly butted together during its construction to reduce the reluctance of the air gap at the joints producing a highly saturated magnetic flux density. Transformer core laminations are usually stacked alternately to each other to produce an overlapping joint with more lamination pairs being added to make up the correct core thickness. This alternate stacking of the laminations also gives the transformer the advantage of reduced flux leakage and iron losses. E-I core laminated transformer

Work on HV winding machine

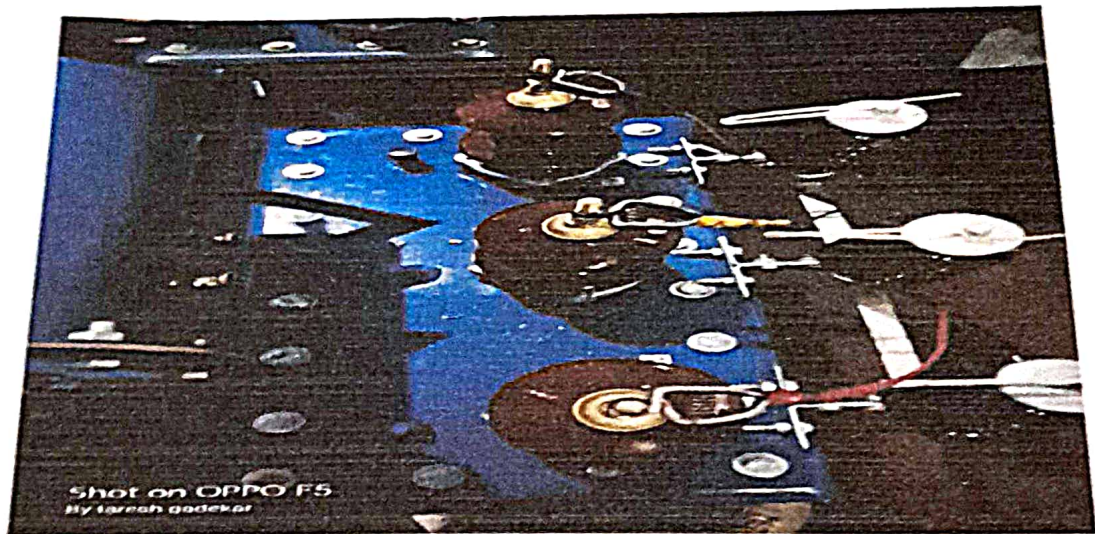


Figure 2

HV winding machine is a special equipment for winding transformer coils. It is mainly used for winding a wide range of HV coils for distribution transformers using round and rectangular

conductors. Before the power supply, the customer should put equipment on smooth ground, and put the winding host and wire decoiler in the suitable position. The equipment should be fixed with expansion screws between the machine and the ground. The winding process of transformer coils is usually divided according to the transformer voltage level or capacity

Work on LV winding machine

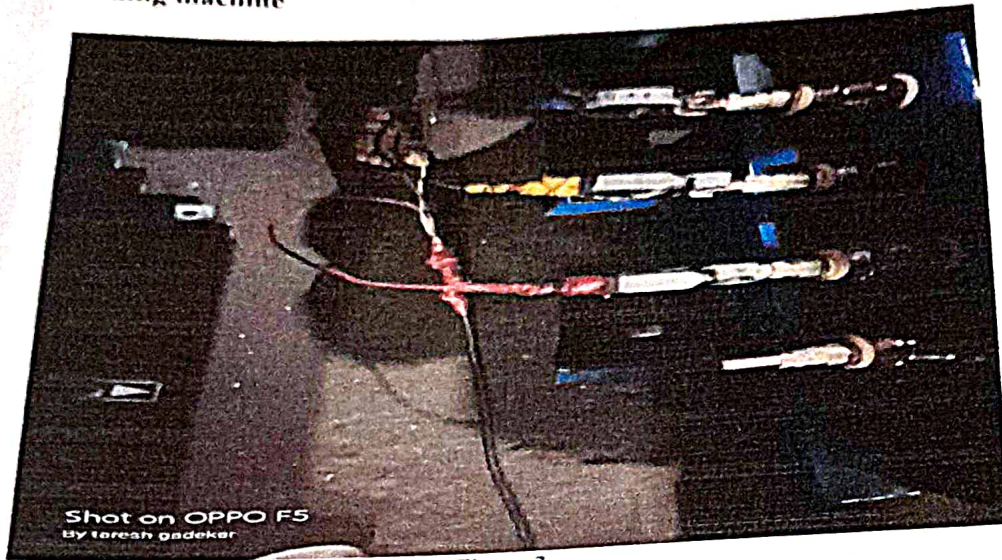


Figure 3

Low voltage transformers control domestic equipment, such as doorbells and air conditioners. They connect to a home's high-voltage power source to create a safe, low-voltage electrical supply. However, your low-voltage transformer appliances can suddenly stop operating causing inconvenience.

When this occurs, I've found that troubleshooting your low voltage transformer is the best place to start.

Testing the core winding.

Generally, the name associated with the construction of a transformer is dependent upon how the primary and secondary windings are wound around the central laminated steel core. The two most common and basic designs of transformer construction are the **Closed-core Transformer** and the **Shell-core Transformer**.

In the "closed-core" type (core form) transformer, the primary and secondary windings are wound outside and surround the core ring. In the "shell type" (shell form) transformer, the primary and secondary windings pass inside the steel magnetic circuit (core) which forms a shell around the windings.

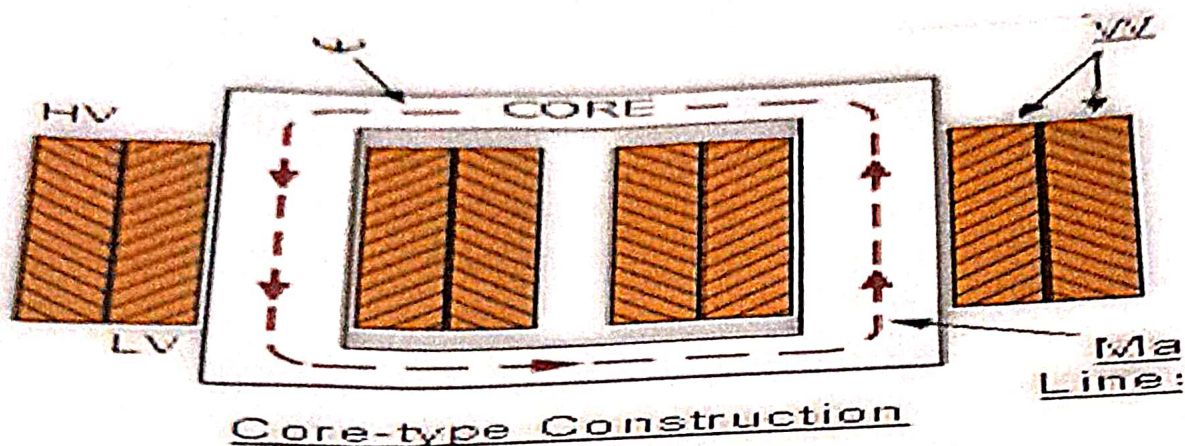


Figure 4

Open-Circuit Test

open-circuit test. The alternating input voltage is set to the normal primary level for the transformer, and the voltage at the open-circuited output terminals is monitored on a voltmeter, as illustrated. The wattmeter measures the input power, and the ammeter measures the primary current. Because the secondary is open-circuited, the primary current is very small, and the voltage drops across the ammeter and wattmeter can be assumed to be negligible. In this case, the input voltage can be taken as the transformer's primary voltage; thus, the ratio of the voltmeter readings gives the turns ratio.

$$\frac{E_P}{S} = \frac{E_S}{N_S}$$

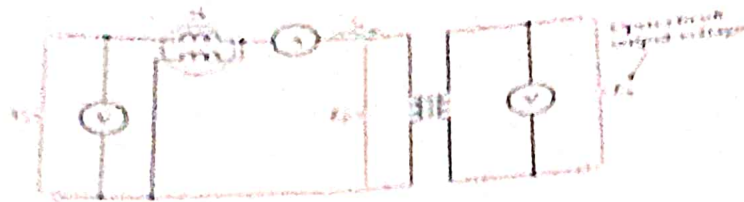


Figure 5

Short-Circuit Test

short-circuit test is performed with the secondary terminals short-circuited, as illustrated in Figure 2(a). Note that the primary voltage (E_p) is measured right at the transformer primary terminals to avoid error due to the voltage drops across the ammeter and wattmeter. The input voltage is increased from zero until the ammeter in the primary circuit indicates normal full-load primary current. When this occurs, the normal full-load secondary current is circulating in the secondary winding. Because the secondary terminals are short-circuited, the input voltage required to produce full-load primary and secondary currents is around 3% of the normal input voltage level. With such a low input voltage level, the core losses are so small that they can be neglected. However, the windings are carrying normal full-load current, and so the input is supplying the normal full-load copper losses.

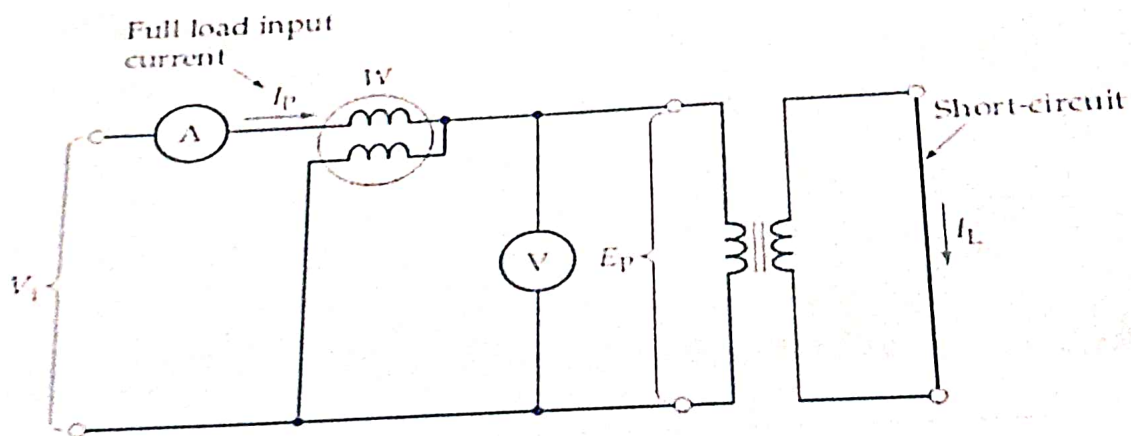


Figure 6

Department of Electrical Engineering

Work on oil purifying and filling machine

Oil purifying and filling machines are used to remove impurities from oil and fill it into containers. There are different types of oil purifying and filling machines available in the market such as portable oil purifiers, vacuum oil purifiers, transformer oil filtration machines, turbine oil purifiers,

Mineral oil and Synthetic oil are the majorly used transformer oil. These are the petroleum products. like Naphthenic based transformer oil and Paraffinic based transformer oil. Naphthenic based transformer oils are known for their heat distribution, which is one of the main problems with transformer.

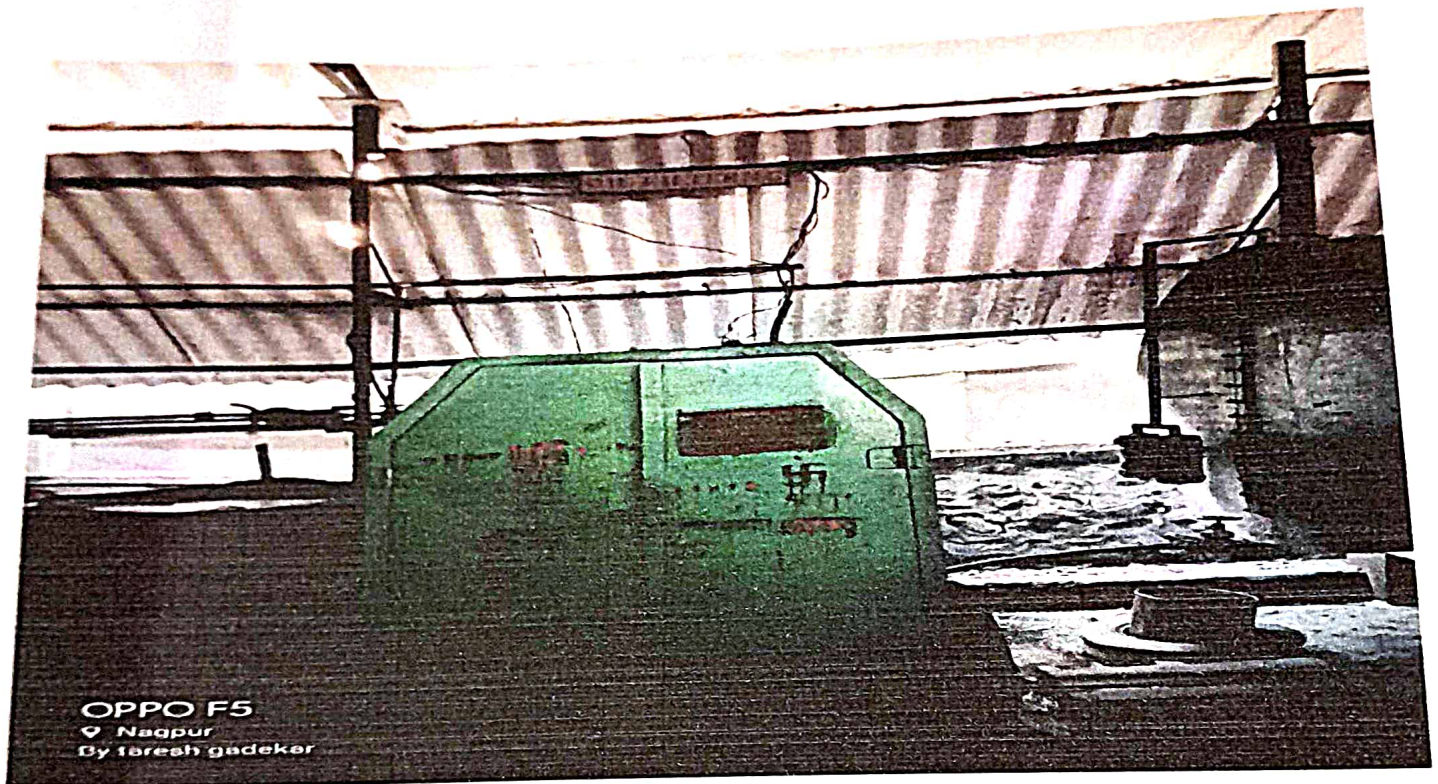


Figure 7

Department of Electrical Engineering

Work on double voltage, double frequency

Double Voltage Double Frequency Test Set DVDF Test Set is Induced Over Voltage Test Set is used for testing the strength of insulation between turns and between other points of the transformers.



Figure 8

CHAPTER 4: SWOC ANALYSIS

Strengths: The transformer which maintain by company have good efficiency. Transformer company staff are skilled for transformer maintenance. The company gets government and commercial contracts as the company has a good image in the market.

Weaknesses: Company has old machinery system. The company doesn't have much insufficient space to work.

Opportunities: Company can open multiple branches. Company will be strong economy in future.

Challenges: Its vary hard to produce large amount of transformer. Production capacity of this company 20 transformer per month.

CHAPTER 5: LEARNING

Low Voltage winding

- First step is manufacturing of LV Winding.
- The material used for LV Winding is aluminum provided with paper insulation.
- The thickness and number of turns in the LV winding depends upon the ratings of the transformer.

High Voltage Winding

- Primary windings (HV winding) are made up of aluminum coil.
- The number of turn in it is the multiple of the number of turns in the low voltage windings.
- It has aluminum coil thinner than that of the low voltage windings.

Core Coil Assembly

- In the core coil assembly coil is fitted in the core and upper yoke limb is inserted to complete the core, then core is tightened using upper and lower pressing beams.
- For coil-to-coil insulation and core to coil insulation press pan sheet is used.
- For insulation between bottoms pressing beam and coil wooden base is used.

Transformer oven section

- Core ovening section is the most important part of repairing transformer.
- This is use to remove the moisture from the core and windings of the transformer.
- In this the core is placed inside the oven at 40-60 °C temperature in summer season and 100-120 °C temperature in winter summer.

Transformer three phase connection

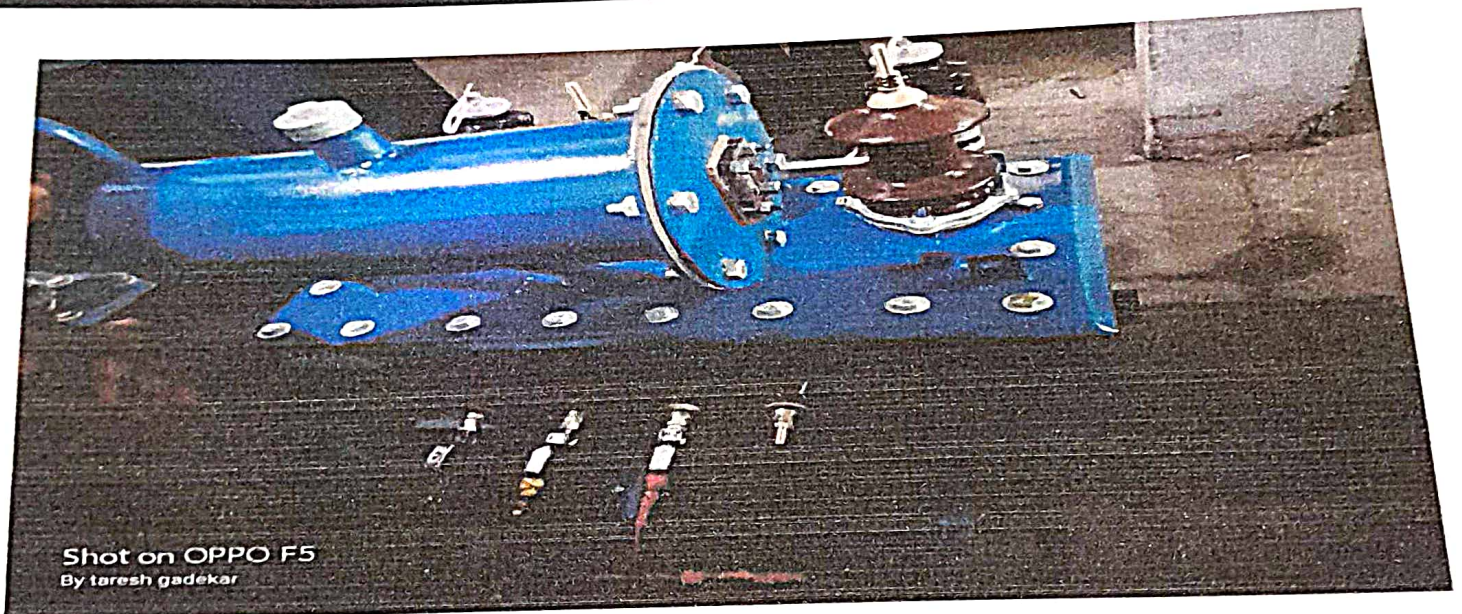
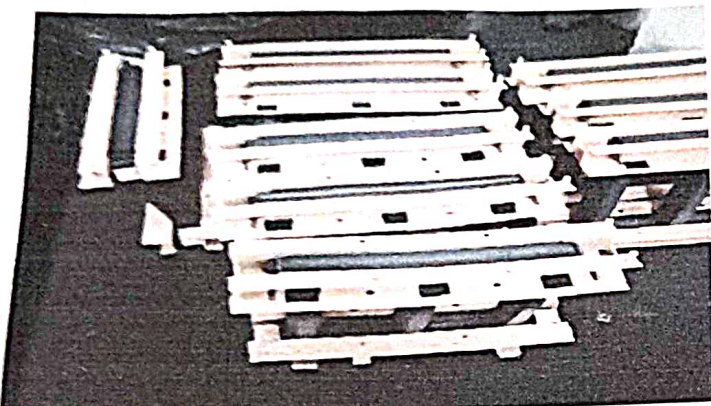
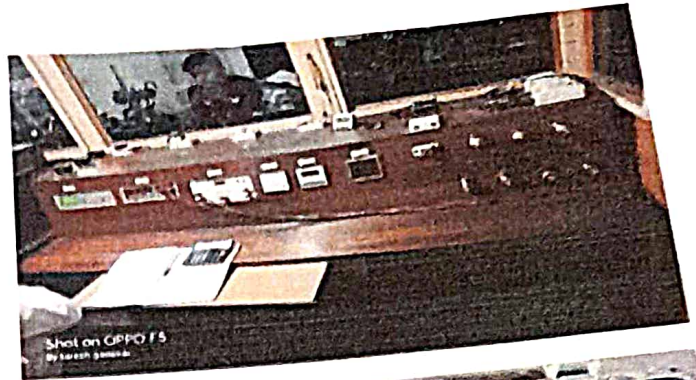
- Windings of a three-phase transformer can be connected in be configuration as :
 1. Star connection
 2. Delta connection

Testing of Transformer

- | | | |
|-----------------|-------------------------------|-----------------------|
| • Pre testing | 1. Insulation resistance test | 2. Voltage ratio test |
| • Final testing | 1. Short circuit test | 2. Open circuit test |

CHAPTER 6: PHOTO GALLERY

Core Type 3 Phase Transformer



STUDY OF SPEED CONTROL METHODS OF DC MOTOR

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Engineering

In

Electrical Engineering

Submitted by

Name of the Student/s

Ms. Samiksha Thaware

Ms. Dipali Ramteke

Mr. Harshad Raut

Ms. Swati Prajapati

Ms. Naina Neware

Under the Guidance of

Dr./Prof. S. R. Vaishnav



Education to Eternity

Name of Department

J D College of Engineering and Management, Nagpur-441501

Dr. Babasaheb Ambedkar Technical University, Lonere, Raigad

Year 2021-22

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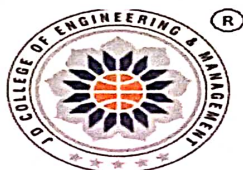
Mr. HARSHAD RAUT

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Ms. NAINA NEWARE

Under the Guidance of

Dr./Prof. S. R. VAISHNAV



Education to Eternity

Name of Department

J D College of Engineering and Management, Nagpur-441501

Dr. Babasaheb Ambedkar Technical University, Lonere, Raigad

Year 2021-22

DECLARATION

We hereby declare that the work presented in this project report entitled, **"STUDY OF SPEED CONTROL METHODS OF DC MOTOR"** in the subject **ELECTRICAL ENGINEERING** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Dr./Prof. S.R. Vaishnav**, Name of Department, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place:

Date: 08/07/22

Name of Students

Samiksha Thaware

Dipali Ramteke


Harshad Raut

Swati Prajapati


Naina Neware


CERTIFICATE

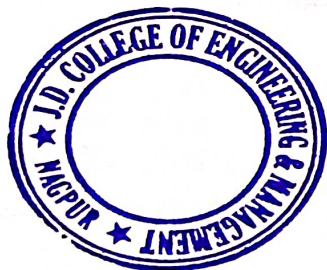
This is to certify that the project report entitled, "Study of speed control methods of DC motor" in the subject Electrical Engineering in the faculty of Science and Technology submitted by Samiksha Thaware, Dipali Ramteke, Harabad Raut, Swati Prajapati and Naina Neware to Dr. Babasaheb Ambedkar Technical University, Lonere, Raigad for the award of the degree of Bachelor of Engineering is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

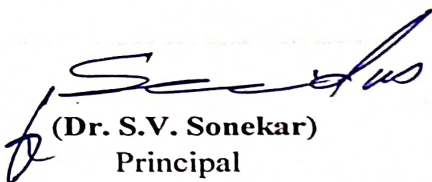

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Name of the Department (Electrical)

Forwarded to:


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Project Coordinator


(Dr. S.R. Vaishnav)
Head of the Department
Name of Department
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(Dr. S.V. Sonekar)
Principal
Principal
J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on **STUDY OF SPEED CONTROL METHODS OF DC MOTOR** is approved work done by,

Samiksha Thaware


Dipali Ramteke

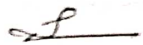
Harshad Raut

Swati Prajapati


Naina Neware

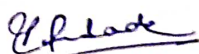
in partial fulfillment of the requirements for the award of the degree of **Bachelor of Engineering in Electrical Engineering** at **J D College of Engineering & Management, Nagpur** affiliated to **Dr. Babasaheb Ambedkar Technical University, Lonere, Raigad** during the academic year 2021-2022.


Dr. S.R. Vaishnav
Guide


Dr. S.R. Vaishnav
Head of the Department

Project Examination held on 08/07/22


Dr. S.R. Vaishnav
Internal Examiner/ Guide


Mr. P.V. Ambade
External Examiner

“ANALYSIS OF SOLAR PHOTOVOLTAIC ARRAY CONFIGURATION UNDER CHANGING ILLUMINATION CONDITION”

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Technology

In

Electrical Engineering

Submitted by

Ravina Nagdeve

Bhagyashree Badge

Shubham Dongarwar

Shamal Dorshetwar

Archana Gahane

Prashik Fulzale

Under the Guidance of

Dr. Vaishnavi Dhok



Education to Eternity

Department of Electrical Engineering

J D College of Engineering and Management, Nagpur-441501

**Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere,
Raigad,**

2021-2022

DECLARATION

We hereby declare that the work presented in this project report entitled, **“Analysis of solar photovoltaic Array Configuration Under changing illumination conditions”** in the subject of **Electrical Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Dr. Vaishnavi Dhok**, Name of Electrical Engineering, Dr. Babasaheb Ambedakar Technological University, Lonere, Raigad. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date:

Ravina Nagdeve

Bhagyashree Badge

Shubham Dongarwar

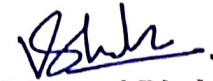
Shamal Dorshetwar

Archana Gahane

Prashik Fulzale

CERTIFICATE

This is to certify that the project report entitled, "Analysis of solar photovoltaic Array Configuration Under changing illumination conditions" in the subject of Electrical Engineering in the faculty of Science and Technology submitted by Ravina Nagdeve, Bhageyashree Badge, Shubham Dongarwar, Shamal Dorshetwar, Archana Gahane, Prashik Fulzale to Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad, for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.



(Dr. Vaishnavi Dhok)

Electrical Engineering Department JDCOEM

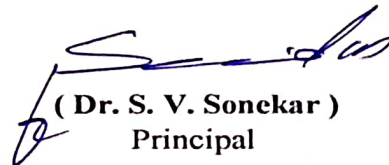
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(Prof. A. V. Joshi)
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Head of the Department
Electrical Engineering Department



(Dr. S. V. Sonekar)
Principal

Principal
J.D. College of Engineering & Management
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Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on Analysis of solar photovoltaic Array Configuration Under changing illumination conditions is approved work done by Ravina Nagdeve, Bhageyashree Badge, Shubham Dongarwar, Shamal Dorshetwar, Archana Gahane, Prashik Fulzale in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Electrical Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad, during the academic year 2021-2022.

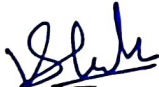


Dr. Vaishnavi Dhok
Guide

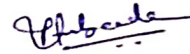


Dr. S. R. Vaishanav
Head of the Department

Project Examination held on 08/07/2022



**Internal Examiner/ Guide
Examiner**



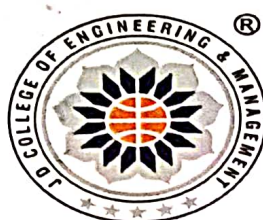
**External
Examiner**

SOLAR POWER MONITORING SYSTEM USING IOT

A Project Report submitted in partial fulfillment of the requirements for the
award of the degree of
Bachelor of Engineering
In
Electrical Engineering

Submitted by
Nikesh Gajbhiye
Akshay Zarodiya
Pravin Badole
Bhushan Giri
Prachi Jambhulkar

Under the Guidance of
Prof. S.A Harane



Education to Eternity

Department of Electrical Engineering
J D College of Engineering and Management, Nagpur- 441501
Affiliated to Dr. Babasaheb Ambedkar Technological
University, Lonere.

Year 2021-2022

DECLARATION

We hereby declare that the work presented in this project report entitled, "IOT BASED SOLAR POWER MONITORING SYSTEM" in the subject Electrical Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. S.A. Harane, Department Of Electrical Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date:

Nikesh Gajbhiye

Akshay Zarodiya

Pravin Badole

Prachi Jambhulkar

Bhushan Giri

CERTIFICATE


This is to certify that the project report entitled, "SOLAR POWER MONITORING SYSTEM USING IOT" in the subject ELECTRICAL ENGINEERING in the faculty of Science and Technology submitted by "Nikesh Gajbhiye, Akshay Zarodiya, Pravin Badole, Prachi Jambhulkar, Bhushan Giri" to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.


(Prof. S.A Harane)

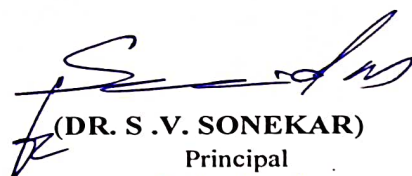
Department of Electrical Engineering

Forwarded to:


(Prof. Ashutosh Joshi)
Project Coordinator


(Dr. Satish Vaishnav)
Head Of Department
Department of Electrical
Engineering




(DR. S .V. SONEKAR)
Principal

Principal
J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

CERTIFICATE OF APPROVAL

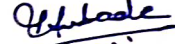
This is to certify that the Project Report on SOLAR POWER MONITORING SYSTEM USING IOT is approved work done by **Nikesh Gajbhiye, Akshay Zarodiya, Pravin Badole, Prachi Jambhulkar, Bhushan Giri** in partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology in Electrical Engineering** at **J D College of Engineering & Management, Nagpur** affiliated to **Dr. Babasaheb Ambedkar Technological University, Lonere** during the academic year 2021-2022.


Prof. S.A. Harane
Guide


Dr. S.R. Vaishnav
Head of the Department

Project Examination held on **8/07/2022**


Internal Examiner/ Guide


External Examiner

SPEED CONTROL OF INDUCTION MOTOR USING SCALER METHOD

A Project Report submitted in partial fulfillment of the requirements
for the award of the degree of

Bachelor of Engineering

In

Electrical Engineering

Submitted by

Sanket Shyamkul

Devid Jambhulkar

Vishakha Indurkar

Mohini Shinde

Nikita Tiple

Under the Guidance of

Prof. Mandar Isasare



Education to Eternity

Department of Electrical Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2021-22

SPEED CONTROL OF INDUCTION MOTOR USING SCALER METHOD

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Engineering

In

Electrical Engineering

Submitted by

Sanket Shyamkul

Devid Jambhulkar

Vishakha Indurkar

Mohini Shinde

Nikita Tiple

Under the Guidance of

Prof. Mandar Isasare



Education to Eternity

Department of Electrical Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2021-22

DECLARATION

We hereby declare that the work presented in this project report entitled, "**SPEED CONTROL OF INDUCTION MOTOR USING SCALER METHOD**" in the subject **Electrical Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. **Mandar Isasare**, Department of Electrical Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: *Nagpur*
Date: *08-07-2022*

Sanket Shyamkul
Devid Jambhulkar
Vishakha Indurkar
Mohini Shinde
Nikita Tiple

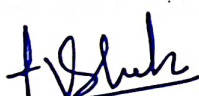
CERTIFICATE

This is to certify that the project report entitled, "SPEED CONTROL OF INDUCTION MOTOR USING SCALER METHOD" in the subject Electrical Engineering in the faculty of Science and Technology submitted by Sanket Shyamkul, Devid Jambhulkar, Vishakha Indurkar, Mohini Shinde, Nikita Tiple to Dr. Babasaheb Ambedkar Technology University, Lonere. for the award of the degree of Bachelor of Engineering is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.



(Prof. Mandar Isasare)
Department of Electrical Engineering

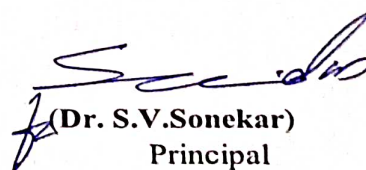
Forwarded to:



(Prof. Ashutosh Joshi)
Project Coordinator



(Dr. S.R. Vaishnav)
Head of the Department
Department of Electrical Engineering





(Dr. S.V. Sonekar)
Principal

Principal
J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501


CERTIFICATE OF APPROVAL


This is to certify that the Project Report on "SPEED CONTROL OF INDUCTION MOTOR USING SCALER METHOD" is approved work done by Sanket Shyamkul Devid Jambhulkar, Vishakha Indurkar, Mohini Shinde, Nikita Tiple in partial fulfillment of the requirements for the award of the degree of Bachelor of Engineering in Electrical Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technology University, Lonere. during the academic year 2021-2022.


Prof. Mandar Isasare
Guide


Dr. S.R. Vaishnav
Head of the Department

Project Examination held on - 08-07-2022


Internal Examiner/ Guide
Prof. Aditya Kumbhakar.


External Examiner

IOT BASED MOTOR MONITORING AND CONTROL SYSTEM

A Project Report submitted in partial fulfillment of the requirements
for the award of the degree of
Bachelor of Engineering

**In
Electrical Engineering**

**Submitted by
Sanjay Jadhao
Ruchi Shiurkar
Pallavi Chaubey
Kajal Meshram
Srushti Dhone**

**Under the Guidance of
Prof. Shubham Harane**



Education to Eternity

Department of Electrical Engineering

JD college of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2021 - 22

IOT BASED MOTOR MONITORING AND CONTROL SYSTEM

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Engineering

In

Electrical Engineering

Submitted by

Sanjay Jadhao

Ruchi Shiurkar

Pallavi Chaubey

Kajal Meshram

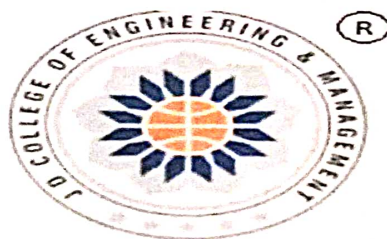
Srushti Dhone

Under the Guidance of

Prof. Shubham Harare

Department of Electrical Engineering

J D College of Engineering and Management, Nagpur-441501



Education to Eternity

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2021-22

DECLARATION

We hereby declare that the work presented in this project report entitled, "**Iot Based Motor Monitoring And Control System**" in the subject Name of Branch in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Dr./Prof. **Shubham Harane**, Electrical engineering, **J D College of Engineering and Management, Nagpur**. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date:

Sanjay Jadhao

Ruchi Shiurkar

Pallavi Chaubey

Kajal Meshram

Srushti Dhone


CERTIFICATE


This is to certify that the project report entitled, "IOT BASED MOTOR MONITORING AND CONTROL SYSTEM" in the subject **Electrical Engineering** in the faculty of Science and Technology submitted by **Sanjay Jadhao, Ruchi Shiurkar, Pallavi Chaubey, Kajal Meshram, Srushti Dhone** to **Dr. Babasaheb Ambedkar technology University, Lonere, Raigad** for the award of the degree of **Bachelor of Engineering** is a Bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

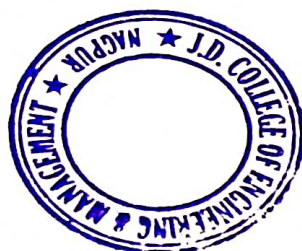


(Prof. Shubham Harane)
Department of Electrical
Engineering

Forwarded to:


(Prof. A.V. Joshi)
Project Coordinator


(Dr. S.R. Vaishnav)
Head of the Department
Department of Electrical engineering




(Dr. S.V. Sonekar)
Principal
Principal

J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on "IOT BASED MOTOR MONITORING AND CONTROL SYSTEM" is approved work done by Sanjay Jadhao, Ruchi Shiurkar, Pallavi Chaubey, Kajal Meshram, Srushti Dhone in partial fulfillment of the requirements for the award of the degree of Bachelor of Engineering in Electrical Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technology University, Lonere Raigad during the academic year 2021-2022.




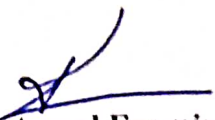
Prof. Shubham Harane
Guide



Dr. S.R. Vaishnav
Head of the Department

Project Examination held on – 08/07/2022


Prof. A.W. Kumbhakar.
Internal Examiner/ Guide


External Examiner

SPEED CONTROL OF SOLAR POWER FED INDUCTION MOTOR DRIVE MATLAB SIMULINK

A Project Report submitted in partial fulfillment of the requirements

**for the award of the degree of
Bachelor of Engineering**

In

Electrical Engineering

Submitted by

Rupali Wadkar

Harshal Sakhare

Krunal Zodape

Mangesh Wandhare

Nitin Badwaik

Under the Guidance of

Prof. Mandar Isasare



Education to Eternity

Department of Electrical Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2021-22

SPEED CONTROL OF SOLAR POWER FED INDUCTION MOTOR DRIVE MATLAB / SIMULINK

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Engineering

In

Electrical Engineering

Submitted by

Rupali Wadkar

Harshal Sakhare

Krunal Zodape

Mangesh Wandhare

Nitin Badwaik

Under the Guidance of

Prof. Mandar Isasare



Education to Eternity

Department of Electrical Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2021-22

DECLARATION

We hereby declare that the work presented in this project report entitled, "**SPEED CONTROL OF SOLAR POWER FED INDUCTION MOTOR DRIVE**" in the subject **Electrical Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Prof. Mandar Isasare**, Name of Department, Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date: 08-07-2022

Rupali Wadkar

Harshal Sakhare

Krunal Zodape

Mangesh Wandhare

Nitin Badwaik

CERTIFICATE

This is to certify that the project report entitled, "SPEED CONTROL OF SOLAR POWER FED INDUCTION MOTOR DRIVE " in the subject Electrical Engineering in the faculty of Science and Technology submitted by **Rupali Wadkar, Harshal Sakhare, Krunal Zodape, Mangesh Wandhare, Nitin Badwaik** to **Dr. Babasaheb Ambedkar Technology University, Lonere**. For the award of the degree of Bachelor of Engineering is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.



(Prof. Mandar Isasare)

Department of Electrical Engineering

Forwarded to:



(Prof. Ashutosh Joshi)

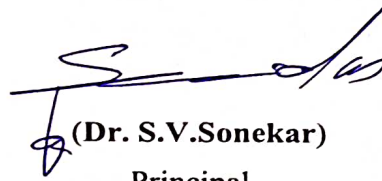
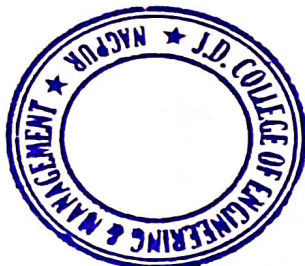
Project Coordinator



(Dr. S.R. Vaishnav)

Head of the Department

Department of Electrical Engineering



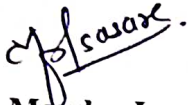
(Dr. S.V. Sonekar)

Principal
Principal

J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on "SPEED CONTROL OF SOLAR POWER FED INDUCTION MOTOR DRIVE" is approved work done by Rupali Wadkar, Harshal Sakhare, Krunal Zodape, Mangesh Wandhare, Nitin Badwaik in partial fulfillment of the requirements for the award of the degree of Bachelor of Engineering in Electrical Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technology University, Lonere. During the academic year 2021-2022.



Prof. Mandar Isasare
Guide



Dr. S.R. Vaishnav
Head of the Department

Project Examination held on 08-07-2022



Internal Examiner/ Guide



External Examiner
Prof. Aditya Kungahadkar.

“Implementation of Solar Powered BLDC Motor Drive Using SEPIC Converter Topology”

**A Project Report submitted in partial fulfilment of the requirements
for the award of the degree of
Bachelor of Technology**

In

Electrical Engineering

**Submitted by
Piyush H. Kumbhare
Swapnil N. Chouragade
Priyal Y. Pounikar
Ashwini Parise
Badal Rahangdale
Ajay Kande**

Under the Guidance of

**Mr. A. V. Joshi
(Assistant Professor)**



Education to Eternity

Department of Electrical Engineering

J D College of Engineering and Management, Nagpur - 441501

**Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere,
Raigad**

Year 2021-2022

“Implementation of Solar Powered BLDC Motor Drive Using SEPIC Converter Topology”

A Project Report submitted in partial fulfilment of the requirements
for the award of the degree of

Bachelor of Technology

In

Electrical Engineering

Submitted by

**Piyush H. Kumbhare
Swapnil N. Chouragade
Priyal Y. Pounikar
Ashwini Parise
Badal Rahangdale
Ajay Kande**

Under the Guidance of

**Mr. A. V. Joshi
(Assistant Professor)**



Education to Eternity

Department of Electrical Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad.

Year 2021-2022

DECLARATION

We hereby declare that the work presented in this project report entitled, **“Implementation of Solar Powered BLDC Motor Drive Using SEPIC Converter Topology”** in the subject of **Electrical Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Prof. A. V. Joshi** Department of Electrical Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date: 08/07/2022

Name of Students

Piyush H. Kumbhare

Swapnil N. Chouragade

Priyal Y. Pounikar

Ashwini Parise

Badal Rahangdale

Ajay Kande

CERTIFICATE


This is to certify that the project report entitled, "Implementation of Solar Powered BLDC Motor Drive Using SEPIC Converter Topology" in the subject of Electrical Engineering in the faculty of Science and Technology submitted by Piyush H. Kumbhare, Swapnil N. Chouragade, Priyal Y. Pounikar, Ashwini Parise, Badal Rahangdale, Ajay Kande, to Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

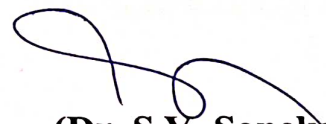

(Mr. A. V. Joshi)

Ass. Prof. Electrical Engineering Dept.

Forwarded to:


(Prof. A.V. Joshi)
Project Coordinator


(Dr. S.R. Vaishnav)
Head of the Department
Electrical Engineering


(Dr. S.V. Sonekar)
Principal

Principal

J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501



CERTIFICATE OF APPROVAL

This is to certify that the Project Report on “Implementation of Solar Powered BLDC Motor Drive Using SEPIC Converter Topology” is approved work done by Piyush H. Kumbhare, Swapnil N. Chouragade, Priyal Y. Pounikar, Ashwini Parise, Badal Rahangdale, Ajay Kande in partial fulfilment of the requirements for the award of the degree of **Bachelor of Technology in Electrical Engineering** at J D College of Engineering & Management, Nagpur affiliated to **Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad** during the academic year 2020-2021.


Prof. A. V. Joshi

Guide


Dr. S.R. Vaishnav

Head of Department (EE)

Project Examination held on 08/07/2022


Internal Examiner/ Guide


External Examiner

IOT BASED MOTOR MONITORING AND CONTROL SYSTEM

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Engineering

In

Electrical Engineering

Submitted by

Sanjay Jadhao

Ruchi Shiurkar

Pallavi Chaubey

Kajal Meshram

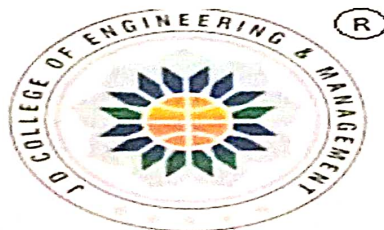
Srushti Dhone

Under the Guidance of

Prof. Shubham Harare

Department of Electrical Engineering

J D College of Engineering and Management, Nagpur-441501



Education to Eternity

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2021-22

DECLARATION

We hereby declare that the work presented in this project report entitled, "**Iot Based Motor Monitoring And Control System**" in the subject Name of Branch in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Dr./Prof. **Shubham Harane**, Electrical engineering, **J D College of Engineering and Management, Nagpur**. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date:

Sanjay Jadhao

Ruchi Shiurkar

Pallavi Chaubey

Kajal Meshram

Srushti Dhone

CERTIFICATE


This is to certify that the project report entitled, "IOT BASED MOTOR MONITORING AND CONTROL SYSTEM" in the subject **Electrical Engineering** in the faculty of Science and Technology submitted by **Sanjay Jadhao, Ruchi Shiurkar, Pallavi Chaubey, Kajal Meshram, Srushti Dhone** to **Dr. Babasaheb Ambedkar technology University, Lonere, Raigad** for the award of the degree of **Bachelor of Engineering** is a Bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

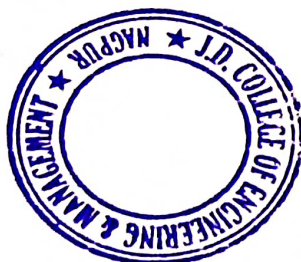



(Prof. Shubham Harane)
Department of Electrical
Engineering

Forwarded to:


(Prof. A. V. Joshi)
Project Coordinator


(Dr. S.R. Vaishnav)
Head of the Department
Department of Electrical engineering

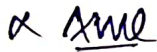



(Dr. S.V. Sonekar)
Principal

Principal
J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on "IOT BASED MOTOR MONITORING AND CONTROL SYSTEM" is approved work done by Sanjay Jadhao, Ruchi Shiurkar, Pallavi Chaubey, Kajal Meshram, Srushti Dhone in partial fulfillment of the requirements for the award of the degree of Bachelor of Engineering in Electrical Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technology University, Lonere Raigad during the academic year 2021-2022.



Prof. Shubham Harane
Guide

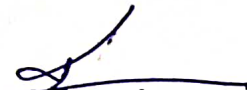


Dr. S.R. Vaishnav
Head of the Department

Project Examination held on – 08/07/2022



Prof. A.W. Kumbhakar
Internal Examiner/ Guide



External Examiner

“COMPARATIVE STUDY OF DIFFERENT MPPT TECHNIQUES”

A Project Report submitted in partial fulfillment of the requirements
for the award of the degree of

**Bachelor of Technology
In
Electrical Department**

Submitted by

Ms. Aamrapali M. Tembhurnikar

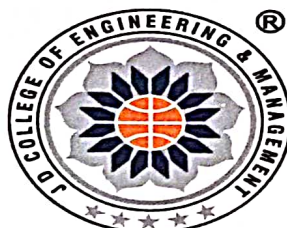
Ms. Poonam D. Bagde

Ms. Samiksha G. Uikey

Ms. Sayali V. Gajbhiye

Ms. Shraddha G. Patle

**Under the Guidance of
Prof. Dr. Vaishnavi Dhok**



Education to Eternity

Department of Electrical Engineering

**J D College of Engineering and Management, Nagpur-441501
Affiliated to Dr Babasaheb Technological University Lonere, Raigad.**

Year 2021-2022

DECLARATION

We hereby declare that the work presented in this project report entitled, “**Comparative Study Of Different MPPT Techniques**” in the subject **Electrical Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Dr. Vaishnavi Dhok**, Department of Electrical Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

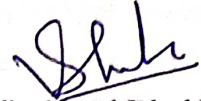
Place: Nagpur

Date:

Ms. Aamrapali M. Tembhurnikar
Ms. Poonam D. Bagde
Ms. Samiksha G. Uikey
Ms. Sayali V. Gajbhiye
Ms. Shraddha G. Patle

CERTIFICATE

This is to certify that the project report entitled, "Comparative Study Of Different MPPT Techniques" in the subject Electrical Engineering in the faculty of Science and Technology submitted by Aamrapali Tembhurnikar, Poonam Bagde, Samiksha Ulkey, Sayali Gajbhiye, Shraddha Patle to Dr Babasaheb Technological University Lonere, Raigad for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.




(Dr. Vaishnavi Dhok)
Electrical Department

Forward to :



(Prof. A. V. Joshi)
Project Coordinator



(Dr. S. R. Vaishnav)
Head of the Department



(Dr. S.V. Sonekar)
Principal

Principal
J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501



CERTIFICATE OF APPROVAL

This is to certify that the Project Report on "COMPARATIVE STUDY OF DIFFERENT MPPT TECHNIQUES" is approved work done by

Ms. Aamrapali M. Tembhurnikar

Ms. Poonam D. Bagde

Ms. Samiksha G. Uikey

Ms. Sayali V. Gajbhiye

Ms. Shraddha G. Patle

in partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology** in **Electrical Engineering** at **J D College of Engineering & Management, Nagpur** affiliated to **Dr Babasaheb Technological University, Lonere, Raigad** during the academic year 2021-2022.



Dr. Vaishnavi Dhok

Guide



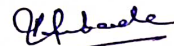
Dr. S.R Vaishnav

Head of the Department

Project Examination held on 08/07/2022



Internal Examiner / Guide



External Examiner

UNDERGROUND CABLE FAULT DETECTION SYSTEM USING GSM AND ARDUINO UNO SYSTEM

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Engineering

In

Electrical Engineering

Submitted by

Mr. Akshay Sontakke

Mr. Rohit Nirapure

Mr. Hariom Tekade

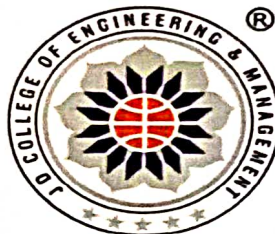
Ms. Pornima Patil

Ms. Sapna Dupare

Ms. Chandani Bansod

Under the Guidance of

Prof. Ashutosh V. Joshi



Education to Eternity

Department of Electrical Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur.

Year 2021-22

DECLARATION

We hereby declare that the work presented in this project report entitled, "Underground Cable Fault Detection System Using GSM and Arduino Uno System" in the subject Electrical Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Ashutosh V. Joshi Name of Department, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date: 08/07/2022

Mr. Akshay Sontakke

Mr. Rohit Nirapure

Mr. Hariom Tekade

Ms. Pornima Patil

Ms. Sapna Dupare

Ms. Chandani Bansods

- Ashutosh Joshi

- Rohit Nirapure

- Hariom Tekade

- P. D. Patil

- Sapna Dupare

- Chandani Bansods


CERTIFICATE

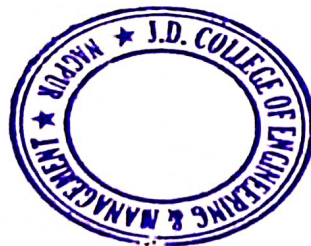
This is to certify that the project report entitled, "Underground Cable Fault Detection System Using GSM and Arduino Uno System" in the subject Electrical Engineering in the faculty of Science and Technology submitted by Mr. Akshay Sontakke, Mr. Rohit Nirapure, Mr. Hariom Tekade, Ms. Pornima Patil, Ms. Sapna Dupare, Ms. Chandani Bansod to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur for the award of the degree of Bachelor of Engineering is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

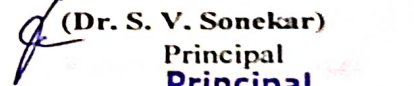

(Prof. Ashutosh V. Joshi)
Department of Electrical Engineering

Forwarded to:


(Prof. A. V. Joshi)
Project Coordinator


(Dr. S. R. Vaishnav)
Head of the Department
Department of Electrical Engineering



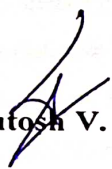

(Dr. S. V. Sonekar)
Principal
Principal
J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501


CERTIFICATE OF APPROVAL

This is to certify that the Project Report on **UNDERGROUND CABLE FAULT DETECTION SYSTEM USING GSM AND ARDUINO UNO SYSTEM** is approved work done by

Mr. Akshay Sontakke
Mr. Rohit Nirapure
Mr. Hariom Tekade
Ms. Pornima Patil
Ms. Sapna Dupare
Ms. Chandani Bansod


in partial fulfillment of the requirements for the award of the degree of **Bachelor of Engineering in Electrical Engineering** at J D College of Engineering & Management, Nagpur affiliated to **Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur** during the academic year 2021-2022.


Prof. Ashutosh V. Joshi
Guide


(Dr. S.R. Vaishnav).
Head of the Department

Project Examination held on 08/07/2022


Internal Examiner/ Guide


External Examiner
Prof. Aditya Kungahadkar.

Project Report
On

**“IOT BASED DISTRIBUTION TRANSFORMER
HEALTH MONITORING SYSTEM”**

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Technology

In

Electrical Engineering

Submitted by

**Mr. Subhas Yadao
Mr. Sanket Thakre
Mr. Rishab Darwai
Mr. Jatin Dolas
Ms. Jyosna Satpute**

**Under the Guidance
Of
Prof. Sneha Jethani**



Department of Electrical Engineering

**J D COLLEGE OF ENGINEERING & MANAGEMENT, NAGPUR
Near Hanuman Temple, Borgaon Phata, Kalmeshwar Road,
Nagpur -441501
Year 2021-2022
www.jdcoem.ac.in**

DECLARATION

We hereby declare that the work presented in this project report entitled, **"IOT BASED DISTRIBUTION TRANSFORMER HEALTH MONITORING SYSTEM"** in the subject **ELECTRICAL ENGINEERING** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of

Prof. SNEHA JETHANI, Department of electrical engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place :

Date :

Name of the students:

SUBHASH YADAO

SANKET THAKRE

RISHABH DARWAI

JATIN DOLAS

JYOSNA SATPUTE

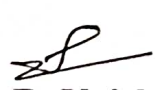
CERTIFICATE

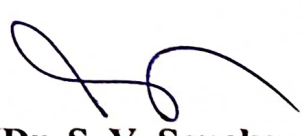
This is to certify that the project report entitled, "IOT BASED DISTRIBUTION TRANSFORMER HEALTH MONITORING SYSTEM" in the subject ELECTRICAL ENGINEERING in the faculty of Science and Technology submitted by SUBHASH YADAO, SANKET THAKRE, RISHABH DARWAI, JATIN DOLAS, JYOSNA SATPUTE to DR BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, PUNE for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.


Prof. SNEHA JETHANI
Department of Electrical Engineering

Forwarded to:


Prof. A.V. Joshi
Project Coordinator


Dr. S. R. Vaishnav
Head of the Department
Department of Electrical Engineering


(Dr. S. V. Sonekar)
Principal



Principal
J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on “**IOT BASED DISTRIBUTION TRANSFORMER HEALTH MONITORING SYSTEM**” is approved work done by

SUBHASH YADAO

SANKET THAKRE

RISHABH DARWAI

JATIN DOLAS

JYOSNA SATPUTE

In partial fulfillment of the requirements for the award of the degree of **Bachelor of Engineering in Electrical** at J D College of Engineering & Management, Nagpur affiliated to **Dr. Babasaheb Ambedkar Technological University, Lonere** during the academic year 2021-2022.


Prof. Sneha Jethani

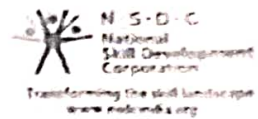
Guide


Dr. S. R. Vaishnav

Head of the Department


Mr. P.V. Ambade
Internal Examiner Guide


Dr. V.S. Dhok
External Examiner



Certificate

This is to certify that

Mr Bhushan Devidas Giri S/o Devidas
has successfully cleared the assessment for the role of
Solar PV Engineer (Option: Solar Water Pumping Engineer) (QP No. - SGJ/Q0112)
conforming to National Skill Qualifications Framework Level-5

Date of Issuance: 15.11.2021
System Identification Number:
314360478667

Issued by: Mr. Chandrashekhar Bhosale, Sr. Vice President

Institution Name: MITCON Consultancy & Engineering Services Ltd.

Signature:



Sameer Gupta
Chairman
Skill Council For Green Jobs

(253)89070467034880000072118
www.nsdcindia.org/jobs/issue

ZOIK

Date: 26th September , 2021

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Ms. Samiksha Uikey has successfully completed her internship with Zoik for the period, 22nd August 2021 to 22nd September 2021 . She was working as a Digital Marketing Intern and was actively and diligently involved in the projects and tasks assigned to her.

During the period of her internship, she had been assigned responsibilities like sharing and digital promotion of Zoik websites and social media handles.

With Best Wishes



Riya Jain
Cofounder- Zoik



Date: 26th September, 2021

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Ms. Samiksha Uikey has successfully completed her internship with Cityfurnish for the period, 22nd August 2021 to 22nd September 2021. She was working as a Digital Marketing Intern and was actively and diligently involved in the projects and tasks assigned to her.

During the period of her internship, she had been assigned responsibilities like sharing and digital promotion of Cityfurnish websites and social media handles. She also attended workshops related to digital marketing and graphics designing.

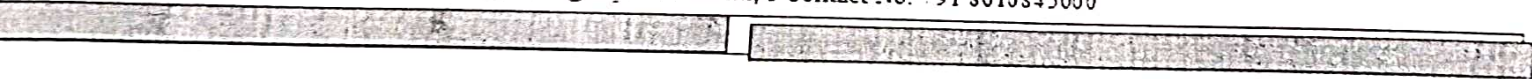
With Best Wishes



Anirudh Krishnadas
Outreach lead- Cityfurnish

CITYFURNISH INDIA PRIVATE LIMITED

Regd Office: Flat No. 31, Ekta Govt. Employees Co-operative Group, Gurgaon - 122001
Corporate Office: Unit No.525-527, 5th Floor, JMD Megapolis, Sohna Road, Sector 48, Gurgaon-122018
E-mail Id: finance@cityfurnish.com, I Contact No: +91 8010845000





Date: 26th September, 2021

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Ms. Samiksha Uikey has successfully completed her internship with Cityfurnish for the period, 22nd August 2021 to 22nd September 2021. She was working as a Digital Marketing Intern and was actively and diligently involved in the projects and tasks assigned to her.

During the period of her internship, she had been assigned responsibilities like sharing and digital promotion of Cityfurnish websites and social media handles. She also attended workshops related to digital marketing and graphics designing.


With Best Wishes



Anirudh Krishnadas
Outreach lead- Cityfurnish

CITYFURNISH INDIA PRIVATE LIMITED

Regd Office: Flat No. 31, Ekta Govt. Employees Co-operative Group, Gurgaon - 122001
Corporate Office: Unit No.525-527, 5th Floor, JMD Megapolis, Sohna Road, Sector 48, Gurgaon-122018
E-mail Id: finance@cityfurnish.com, I Contact No: +91 8010845000





SKILLMALLA Internship

Certificate of Completion to Priyal Pounikar

_____ for completing 1-month Internship on _____

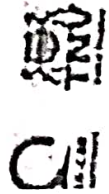
Python For ML/AI Internship

In this one-month program, you've shown grit, patience, curiosity and hard-work to learn skills that are important in Industry. And, this is just the start of journey to your dream career. Make your dream come true.

Keep Learning, Keep Exploring!

We wish you all the best for your future

S. NO. ETGSI11602



Mayank Arora
CEO & Founder

Date of Issue : 29th Sept 2021



Skill India

सकल शक्ति - एकता निधि

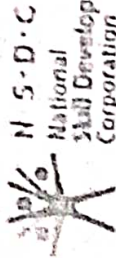


सकल शक्ति

GOVERNMENT OF INDIA

MINISTRY OF SKILL DEVELOPMENT

& ENTREPRENEURSHIP



NSDC
National
Skill Development
Corporation

Transforming the skill landscape
www.nsdcindia.org

Certificate

This is to certify that

Mr Piyush Harichandra Kumbhare S/o Harishchandra
has successfully cleared the assessment for the role of
Solar PV Engineer (Option: Solar Water Pumping Engineer) (QP No. - SGJ/Q0112)
conforming to National Skill Qualifications Framework Level-5



SCGI
SKILL COUNCIL FOR
GREEN JOBS

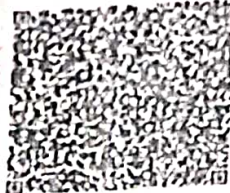
[Signature]

Sameer Gupta

Chairman

Skill Council For Green Jobs

Date of Issuance 15.11.2021
System Identification Number
660674283117



Issued by Mr. Chandrashekhar Bhosale, Sr. Vice President

Institution Name MITCON Consultancy & Engineering Services Ltd.

Signature *[Signature]*

(253)89070467034880000072131
www.nsdcindia.org/pdsecure

Skill India Internship

Certificate of Completion to

Badal Rahangdale

_____ for completing 1-month Internship on _____

Python For ML/AI Internship

In this one-month program, you've shown grit, patience, curiosity and hard-work to learn skills that are important in Industry. And, this is just the start of journey to your dream career. Make your dream come true.

Keep Learning, Keep Exploring!

We wish you all the best for your future

S. NO. ETGSI11604

Date of issue : 29th Sept 2021

Mayank Arora
CEO & Founder





**UMEED INDIA
FOUNDATION**

TRUST REGISTRATION S. NO. DEL UR25851-0802

RefNo: UIF21/1058
Date: 19-11-2021

Certificate of Internship

We present this certificate to

Ms. TEJASWINI WAKALKAR

In appreciation for your successful work as an intern at Umeed India Foundation in the area of Social Work, HR, Marketing, Finance & Environment.

The internship was conducted between 20-10-2021 and 19-11-2021.

During the tenure this internship the candidate was found to be dedicated, hardworking and efficient.

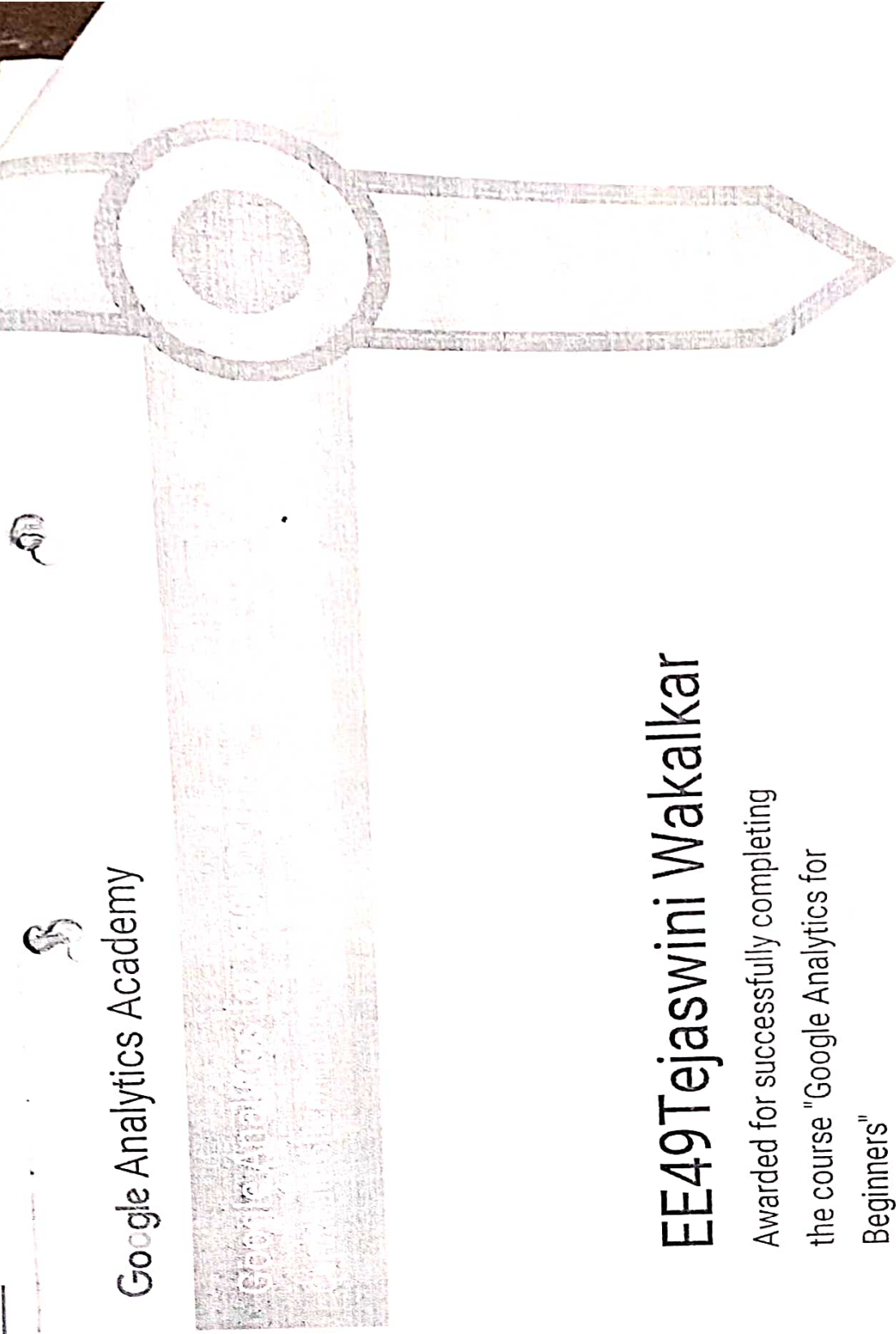
Subhrajeev Gautam

Subhrajeev Gautam
(Founder & Secretary)





Google Analytics Academy



EE49Tejaswini Wakalkar

Awarded for successfully completing
the course "Google Analytics for
Beginners"



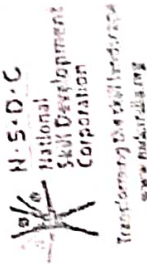
Certificate expires January 5, 2025



Skill India
सिखिए कौशल - बेरोजगारी नहीं



GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
& ENTREPRENEURSHIP



Certificate

This is to certify that

Mr Subhash Mohan Yadav S/o Mohan
has successfully cleared the assessment for the role of
Solar PV Engineer (Option: Solar Water Pumping Engineer) (QP No. - SGJ/Q0112)
conforming to National Skill Qualifications Framework Level-5

Date of Issuance 15/11/2021
System Identification Number
655794553828



Issued by.. Mr. Chandrashekhar Bhosale, Sr. Vice President

Institution Name.. MITCON Consultancy & Engineering Services Ltd.

Signature.....



SKILL COUNCIL FOR
GREEN JOBS

Sameer Gupta

Sameer Gupta
Chairman
Skill Council For Green Jobs

(253)3307045700-5538280072123
www.nsd.gov.in



भारत सरकार

रेल मंत्रालय

विद्युत लोको शेड, अजनी, मध्य रेल

प्रमाण-पत्र

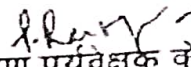
प्रमाणित किया जाता है कि श्री/श्रीमती/कुमारी संकेत राविन्द्र श्यामकुल
जो कि बी.ई./पॉलिटेक्नीक शाखा इलेक्ट्रीकल सत्र VIIth 2019-20
संस्थान का नाम जे.डी. कॉलेज ऑफ इंजीनियरिंग एंड मैनेजमेन्ट नागपुर
ने प्रशिक्षण दिनांक 29.11.2021 से दिनांक 04.12.2021 तक प्राप्त किया है।
प्रशिक्षण के दौरान इनका अनुशासन एवम प्रशिक्षण के प्रति उत्सुकता सराहनीय है।

मैं इनके उज्ज्वल भविष्य के लिए शुभकामनाएं देता हूँ।


अनु क्र. :- 2647

पत्र संख्या : वि.लो.शे/अजनी/बी.टी.सी/09

दिनांक : 04.12.2021


प्रशिक्षण पर्यवेक्षक के हस्ताक्षर

हस्ताक्षर


कृते वरिष्ठ मंडल विद्युत इंजीनियर
विद्युत लोको शेड, अजनी
नागपुर मंडल (मध्य रेल)

KTC/Group-II/RG-6/VT-102/52



MAHARASHTRA STATE POWER GENERATION CO.LTD.
(INTEGRATED MANAGEMENT SYSTEM CERTIFIED UNIT)

**CERTIFICATE
VACATION TRAINING**

Batch VT - 102

This is to certify that,

Mr./Miss Jatin Naresh Dolas

*Student from JDCOE, Nagpur of VI Sem, Electrical Branch has
successfully completed Vacation Training conducted at*

Koradi Training Centre, Koradi

From 14/06/2021 to 25/06/2021 (10 days)

Date:- 25/06/2021

**Chief Engineer (Trg.)
KTC: MAHAGENCO: KORADI**

ZOIK

Date: 26th September, 2021

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Mr. Soyab sheikh has successfully completed his internship with Zoik for the period, 22nd August 2021 to 22nd September 2021. He was working as a Digital Marketing Intern and was actively and diligently involved in the projects and tasks assigned to him.

During the period of his internship, he had been assigned responsibilities like sharing and digital promotion of Zoik websites and social media handles.

With Best Wishes



Riya Jain
Cofounder- Zoik



Date: 26th September, 2021

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Mr. Soyab sheikh has successfully completed his internship with Cityfurnish for the period, 22nd August 2021 to 22nd September 2021. He was working as a Digital Marketing Intern and was actively and diligently involved in the projects and tasks assigned to him.

During the period of his internship, he had been assigned responsibilities like sharing and digital promotion of Cityfurnish websites and social media handles. He also attended workshops related to digital marketing and graphics designing.

With Best Wishes

Anirudh Krishnadas
Outreach lead- Cityfurnish

CITYFURNISH INDIA PRIVATE LIMITED

Regd Office: Flat No. 31, Ekta Govt. Employees Co-operative Group, Gurgaon - 122001
Corporate Office: Unit No.525-527, 5th Floor, JMD Megapolis, Sohna Road, Sector 48, Gurgaon-122018
E-mail Id. finance@cityfurnish.com, I Contact No: +91 8010845000

Certificate of Training

Rajat Gajbhiye

has successfully completed an 8-week online training on **Programming with C and C++**. The training consisted of Getting Started With Programming in C, Diving Into C Programming, Fundamentals of Object Oriented Programming Using CPP, Diving into CPP Programming, and Building Cricket Game Application modules.

In the final assessment, Rajat scored 46% marks.

We wish Rajat all the best for future endeavours.



Sarvesh Agarwal

FOUNDER & CEO, INTERNSHALA

Date of certification: 2021-12-15

Certificate no. : 48408D52-9871-7B3A-4649-972AFB6EA54E

For certificate authentication, please visit https://trainings.internshala.com/verify_certificate



get my
PARKING
where mobility begins

TO WHOMSOEVER THIS MAY CONCERN

This is to inform that **Sahil Durgaprasad Jaiswal** is our Market Research Intern in **Nagpur Region** since **07 September 2021**. As part of his work duty he must do a detailed survey and gather important information of every parking lot in **Nagpur region**. He has been given a mobile application to collect all the information and take photographs during the survey. This information will be used to facilitate the common public to find parking lots online in a convenient way by implementing smart parking under a smart city initiative.

This will benefit all the parking lots as people will start using authorized legal parking lots more than illegal parking. Mobile numbers and any contact information collected will be used only internally to keep our database up to date in the future. We request the concerned party to cooperate with him in his effort to do survey work. In case of any concerns, the concerned party may contact the company at the contact details given below or on the website – www.getmyparking.com.

Thanking you,



Rati Singh

Head - People Team

Agile Parking Solutions Pvt. Ltd

AGILE PARKING SOLUTIONS PVT. LTD.
CIN: U72300UP2015PTC071879
TIN: 07737107207

Correspondence: 62, 2nd Floor, Khar Singh Estate,
Saidulajab, Saket, Delhi - 110030
Regd. Off: KB-160, Kavinagar, Ghaziabad

care@getmyparking.com
+91 8588 8991 06
www.getmyparking.com



THE ENTREPRENEURSHIP NETWORK

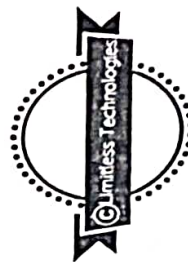
Certification of Completion

Date: November 27, 2021
Employee ID: TEN/ADD/308
Document No.: TEN/CT/5156

This is to certify that Ankit Kameshwar Shah pursuing B.Tech from Jd College of Engineering and Management has successfully completed his internship with The Entrepreneurship Network from 8/15/2021 to 11/15/2021. During the period, he worked as a Android Development-Associate. During the course of his internship, Ankit Kameshwar Shah showed considerable interest in fulfilling his roles and responsibilities and his conduct was professional throughout. We wish him all the very best for his future endeavours.

Best Regards,

Swetha Sabu
Chief Human Resource Officer
The Entrepreneurship Network





A subsidiary of American Ruler Private Limited



29993:2017

19th July 2021

TO WHOM IT MAY CONCERN

This is to certify that Aishwarya Dhote bearing code: GTG5PA-CE000167 has successfully completed a internship with IFORTIS WORLDWIDE as a Corporate Ambassador in the Marketing Department from 31/05/2021 to 16/07/2021.

Top Skills Covered:

- Sales funnel
- Creation of key visuals & presentations
- Promotion: Integrated Marketing Communication
- Comprehensive knowledge
- Segmentation & Targeting
- Networking & Time management
- Consumer Behaviour

Besides showing high comprehension capacity, managing assignments with the utmost expertise and exhibiting maximal efficiency, he/she has also maintained an outstanding professional demeanor and showcased excellent moral character throughout the internship period.

We hereby certify that the candidate's overall work is **good** to the best of our knowledge.

Wishing the candidate all the best for his/her future endeavors.

For IFORTIS WORLDWIDE,

Chief Executive Officer
AMERICAN RULER PRIVATE LIMITED
No.704, Kuruvikulam KN, Sankarankovil,
Tirunelveli, Tamilnadu,
INDIA - 627 754.

Registered Office: No.704, Kuruvikulam KN, Sankarankovil TK, Tirunelveli, Tamilnadu - 627754 (INDIA)

CIN: U18109TN2021PTC143811 | **GSTIN:** 33AAVCA2781N1Z1

Email: info@ifortisworldwide.com | relations@ifortisworldwide.com



INTERNSHIP STUDIO

CERTIFICATE

OF INTERNSHIP

THIS IS TO CERTIFY

Advitiya Rajendra Padigel

for completing 5 weeks of internship in Excel Automation with the title of "Multi Region Sales Analysis" at
Internship Studio from 29th July to 2nd September 2021. We wish you all the best
for your future endeavours.

Date:-
06/09/2021

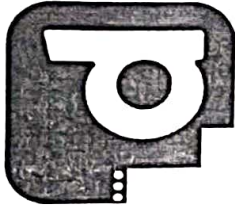
Ashok Sindkar

Ashok Sindkar
Instructor & Mentor

Aniket Maheshwari

Aniket Maheshwari
Founder & CEO

Certificate ID:
ISEA18009



CERTIFICATE OF INTERNSHIP

This certifies that

Sunaina Praful Jagtap

has completed Social Media Marketing Internship at Digladder from May 19, 2021 to June 19, 2021.

We found him/her sincere, hardworking, dedicated and result oriented.

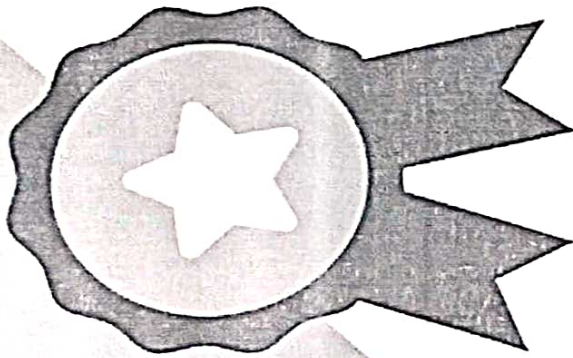
She/he worked well as part of the team during his/her tenure.

We take this opportunity to thank him/her and wish him/her all the best for his/her future.

Awarded this June 20, 2021

JASPREET SINGH
CO-FOUNDER & PRODUCT ADVISOR

CERTIFICATE NO: 12760



THE SPARKS FOUNDATION



THIS IS PRESENTED TO

Pranav

PRANAV DUBEY

DIRECTOR

08/25/2021

DATE

KALYANI MANOHAR VAIDYA

for successful selection as an intern at The Sparks
Foundation for function Data Science & Business
Analytics.



CODE: BVWJHN729

Verify at:

<https://truecertificates.com/verification>

CERTIFICATE OF INTERNSHIP



QASWATECH

*We present this certificate to
Pradnya Jadhav
in appreciation for her successful work as a
Back End Trainee.
The internship was conducted from
28/06/2021 to 28/08/2021*



Date : 30/08/2021

Managing Director



www.qaswatechnologies.com



UNNEED INDIA
FOUNDATION

TRUST REGISTRATION S. NO. DEL UR25951-0802

Ref/No: UIF21/1142
Date: 24-11-2021

Certificate of Internship

We present this certificate to

Ms. SHEJAL DHENG

In appreciation for your successful work as an intern at Unneed India Foundation
in the area of Social Work, HR, Marketing & Environment.

The internship was conducted between 25-10-2021 and 24-11-2021.

During the tenure this internship the candidate was found
to be dedicated, hardworking and efficient.

Subhrajit Gautam
Subhrajit Gautam
(Founder & Secretary)





Skill India Internship

Certificate of Completion to Harshal Sakhare

_____ for completing 1-month Internship on _____

Python For ML/AI Internship

In this one-month program, you've shown grit, patience, curiosity and hard-work to learn skills that are important in Industry. And, this is just the start of journey to your dream career. Make your dream come true.

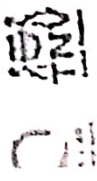
Keep Learning, Keep Exploring!

We wish you all the best for your future

S. NO. ETGSI11601

Mayank Arora
CEO & Founder

Date of issue : 29th Sept 2021





**UMEED INDIA
FOUNDATION**

TRUST REGISTRATION S. NO. DEL UR25851-0802

RefNo: UIF21/1142
Date: 24-11-2021

Certificate of Internship

We present this certificate to

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In appreciation for your successful work as an intern at Umeed India Foundation
in the area of Social Work, HR, Marketing & Environment.

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Subhrajeev Gautam

Subhrajeev Gautam
(Founder & Secretary)



CERTIFICATE OF INTERNSHIP



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in appreciation for her successful work as a
Back End Trainee.*

*The internship was conducted from
28/06/2021 to 28/08/2021*



Date : 30/08/2021

Managing Director



www.qaswatechnologies.com



CERTIFICATE

OF COMPLETION

Full-Stack Web Development Course

Shashikant Vijay Gondane



The bearer of this certificate is hereby deemed fully capable and skilled in developing web sites.
They have been tested on best practices and are ready to perform programming in 7 languages
including HTML, CSS, JavaScript, Bootstrap, jQuery, PHP and MySQL.

08.11.2021

DATE

Shashikant
SIGNATURE

CIN : U72900MH2019PTC324858

PSK TECHNOLOGIES
PRIVATE LIMITED COMPANY

Certificate No.
PSK1091

PSK Technologies Pvt. Ltd.

Head Office : 780, Tailor Line, Katol Road Chhaoni, Nagpur - 13 (M.H.) India Mob.: 9975288300
Branch Office : Fortune Mall, Siabudi, Near Maharashtra Bank, Nagpur - 12 Mob.: 9970141466



Certificate

We The Undersigned awarded to

Mr./Ms./Mrs. KARAN M. GAIKWAD

S/o, D/o MORESHWAR GAIKWAD

has successfully completed UI DEVELOPMENT

(HTML, CSS, JAVASCRIPT, JQUERY, BOOTSTRAP)

From 10-JUNE-2020 to 20-AUG-2020 During this period He / She has attended

the course regularly and has completed the Lab practical.

☐ ☐ ☒

His / Her Performance was Excellent / Very Good / Good

Date : 24-NOV-2021

Place : Nagpur



www.pskitservices.com

IntelliPaat ✓ *Extra marks*
Software Solutions Pvt. Ltd. *EE*

AMR Tech Park 3, Ground
Floor Tower B, Bommanahalli
Village, Bommanahalli, Hosur
Road, Bangalore-560068
(M): +917022374614.
www.intellipaat.com

To,
Mansi Jitendra Somkuwar ✓
Subject: Internship Offer Letter

Date: 28th January 2022

Dear Mansi Jitendra Somkuwar,

In reference to your application, we would like to congratulate you on being selected for Internship with IntelliPaat Software Solutions Pvt. Ltd. Your work is scheduled to start from **14th February 2022** for a period of 6 Months. During this period, you will get paid **Rs. 22,000/month** (Rupees Twenty-Two Thousand Only) and you will be working as '**Business Development Trainee**'. The technical platform and job role will be shared with you by your manager on the day of your joining.

Note:

- Number of working days is 6 days in a week.
- Your first month salary will be dispersed along with your 4th month salary.
- During this Internship you are eligible to get up to Rs 200,000/- as incentive based on your performance.
- During your internship, you are expected to be disciplined and sincere towards your job responsibility.
- Based on your performance, Pre Placement Offer will be released before the completion of your internship at IntelliPaat.
- The company reserves the right to pay or recover salary in lieu of the notice period (if applicable) or to relieve you before the expiry of the notice period. All payments and recoveries made under this clause will be based on Gross Salary
- You need to serve 30 days of notice period without fail, or else the management of IntelliPaat can hold your salary/ experience letter / relieving letter/ any background verification in the future.
- Minimum working duration must be 9 hours including one-hour lunch/dinner break.
- After the successful completion of 6 Months Internship period total CTC would be 900,000 INR.
- No examination preparatory leaves will be provided during this period
- If the college / university exams are pending then you are allowed to take leaves for exams and for applying for the same you need to get the letter from your TPO with examination dates and get it approved by your manager.

Again, congratulations and we look forward to working with you.

Yours truly,
For IntelliPaat Software Solutions Private Limited



Dewaker Singh Bisht
Director- Human Resources

IntelliPaat Software Solutions Pvt. Ltd.
AMR Tech Park 3, Ground Floor, Tower B, Bommanahalli, Hosur Road, Bengaluru, Karnataka-560068



TalentServe

LETTER OF OFFER

Internship

To, Prachi Firendra Jambhulkar,
JD College Of Engineering And Management, Nagpur

13 May, 2022

Dear, Prachi

With reference to your application for Internship in our company and the subsequent decision we had, we are pleased to offer you an appointment in our company on following terms and conditions.

You will be designated for "Full Time Intern - Marketing, Business Development & General Management" your place of work will be Mumbai. Your Reporting will be Virtual to Head Office Mumbai.

As you will be receiving academic credit for this position you will be paid on for a lump sum amount looking at your performance based on management decision after completion of your internship.

| | |
|----------|---|
| Duration | 3 Months |
| Stipend | 10,000 INR - 30,000 INR (Fixed + Variable) |

Additionally, Students do not receive benefits as a part of their Internship. You will receive Certificate after completion of Internship for your academic purpose.

Looking at your internship performance we will have PPO (Pre-Placement Opportunity) which will be followed by normal recruitment process.

We are confident and expect that you would play a significant role in the overall success of the venture and wish you the most enjoyable, learned packed and truly meaningful internship experience with TalentServe.

Congratulations and Welcome to the Team!

Samiksha

Samiksha
HRD Department
For TalentServe India Pvt. Ltd.

C-103, 1st Floor,
Shree Sai Tower CHSL,
Sodawala Lane
Borivali West, Mumbai
Maharashtra - 400092.

www.talentserve.org

EE - Extracurriculars, Square yards,



TalentServe

LETTER OF OFFER

To, Swapnil Dangare,
JD College Of Engineering And Management, Nagpur

13 May, 2022

Dear, Swapnil

With reference to your application for Internship in our company and the subsequent decision we had, we are pleased to offer you an appointment in our company on following terms and conditions.

You will be designated for "Full Time Intern - Growth Manager & General Management" your place of work will be Mumbai. Your Reporting will be Virtual to Head Office Mumbai.

As you will be receiving academic credit for this position you will be paid on for a lump sum amount looking at your performance based on management decision after completion of your Internship

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HRD Department
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C-103, 1st Floor,
Shree Sai Tower CHSL,
Sodawala Lane
Borivali West, Mumbai
Maharashtra - 400092.

www.talentserve.org



LETTER OF OFFER

To, Badal Jalram Rahangdale,
JD College Of Engineering And Management, Nagpur

13 May, 2022

Dear, Badal

With reference to your application for Internship in our company and the subsequent decision we had, we are pleased to offer you an appointment in our company on following terms and conditions.

You will be designated for "Full Time Intern - Marketing, Business Development & General Manageme" your place of work will be Mumbai. Your Reporting will be Virtual to Head Office Mumbai.

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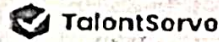
Samiksha

Samiksha
HRD Department
For TalentServe India Pvt. Ltd.

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Shree Sai Tower CHSL,
Sodawala Lane
Borivali West, Mumbai
Maharashtra - 400092.

www.talentserve.org

EE → Epitome Components Pvt. Ltd, Ahmednagar



LETTER OF OFFER

To, Pornima dewaji patil,
JD College Of Engineering And Management, Nagpur

13 May, 2022

Dear, Pornima

With reference to your application for Internship in our company and the subsequent decision we had, we are pleased to offer you an appointment in our company on following terms and conditions.

You will be designated for "Full Time Intern - Marketing, Business Development & General Manageme" your place of work will be Mumbai. Your Reporting will be Virtual to Head Office Mumbai.

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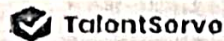
Congratulations and Welcome to the Team!

Samiksha

Samiksha
HRD Department
For TalentServe India Pvt. Ltd.

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Shree Sai Tower CHSL,
Sodawala Lane
Borivali West, Mumbai
Maharashtra - 400092.

EE → Epitome components, Pvt. Ltd. Ahmadnagar



LETTER OF OFFER

To, Chandani Mahendra Bansod,
JD College Of Engineering And Management. Nagpur

13 May, 2022

Dear, Chandani

With reference to your application for Internship In our company and the subsequent decision we had, we are pleased to offer you an appointment In our company on following terms and conditions.

You will be designated for "Full Time Intern - Marketing, Business Development & General Manageme" your place of work will be Mumbai. Your Reporting will be Virtual to Head Office Mumbai.

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HRD Department
For TalentServe India Pvt. Ltd.

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Sodawala Lane
Borivalli West, Mumbai
Maharashtra - 400092.

E.E → Epitome Components Pvt. Ltd.



LETTER OF OFFER

To, Piyush Harishchandra Kumbhare,
JD College Of Engineering And Management, Nagpur

13 May, 2022

Dear, Piyush

With reference to your application for Internship in our company and the subsequent decision we had, we are pleased to offer you an appointment in our company on following terms and conditions.

You will be designated for "Full Time Intern - Marketing, Business Development & General Manageme" your place of work will be Mumbai. Your Reporting will be Virtual to Head Office Mumbai.

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Congratulations and Welcome to the Team!

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HRD Department
For TalentServe India Pvt. Ltd.

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Borivali West, Mumbai
Maharashtra - 400092.

EE → Epitome components Pvt. Ltd.



LETTER OF OFFER

To, Naina Ramesh Neware,
JD College Of Engineering And Management Nagpur

13 May, 2022

Dear, Naina

With reference to your application for Internship in our company and the subsequent decision we had, we are pleased to offer you an appointment in our company on following terms and conditions.

You will be designated for "Full Time Intern - Marketing, Business Development & General Manageme" your place of work will be Mumbai. Your Reporting will be Virtual to Head Office Mumbai.

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Congratulations and Welcome to the Team!

Samiksha

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HRD Department
For TalentServe India Pvt. Ltd.

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Sodawala Lane
Borivli West, Mumbai
Maharashtra - 400092.



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LETTER OF OFFER

To, Rohit Madhu NIRAPURE,
JD College Of Engineering And Management, Nagpur

13 May, 2022

Dear, Rohit

With reference to your application for Internship in our company and the subsequent decision we had, we are pleased to offer you an appointment in our company on following terms and conditions.

You will be designated for "Full Time Intern - Marketing, Business Development & General Manageme" your place of work will be Mumbai. Your Reporting will be Virtual to Head Office Mumbai.

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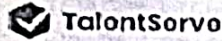
We are confident and expect that you would play a significant role in the overall success of the venture and wish you the most enjoyable, learned packed and truly meaningful internship experience with TalentServe.

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For TalentServe India Pvt. Ltd.

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Shree Sai Tower CHSL,
Sodawala Lane
Borivali West, Mumbai
Maharashtra - 400092.

www.talentserve.org



LETTER OF OFFER

To, Hariom Ramesh Tekade,
JD College Of Engineering And Management, Nagpur

13 May, 2022

Dear, Hariom

With reference to your application for Internship in our company and the subsequent decision we had, we are pleased to offer you an appointment in our company on following terms and conditions.

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For TalentServe India Pvt. Ltd.

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Shree Sai Tower CHSL,
Sodawala Lane
Borivali West, Mumbai
Maharashtra - 400092.

EE → Focus Eduomatics



TalentServe

LETTER OF OFFER

To, Jyosna Ramesh Satpute,
JD College Of Engineering And Management, Nagpur

13 May, 2022

Dear, Jyosna

With reference to your application for Internship in our company and the subsequent decision we had, we are pleased to offer you an appointment in our company on following terms and conditions.

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Borivali West, Mumbai
Maharashtra - 400092.

www.talentserve.org

EE - Epitome Consultants Pvt. Ltd.



TalentServe

LETTER OF OFFER

To, Ravina Bramhdas Nagdeve,
JD College Of Engineering And Management, Nagpur

13 May, 2022

Dear, Ravina

With reference to your application for Internship in our company and the subsequent decision we had, we are pleased to offer you an appointment in our company on following terms and conditions.

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HRD Department
For TalentServe India Pvt. Ltd.

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Shree Sai Tower CHSL,
Sodawala Lane
Borivali West, Mumbai
Maharashtra - 400092.

www.talentserve.org

Robotic Arm Vehicle with Object and Facial Recognition

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Technology

In

Electronics and Telecommunication Engineering

Submitted by

Mr. Mahesh Shivaji Runnaware

Mr. Someshwar Muddamwar

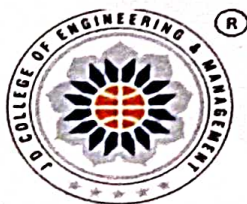
Ms. Damini Chaudhari

Mr. Kunal Muddamwar

Mr. Hemant Shende

Under the Guidance of

Prof. Mohammad Hassan Ansari



Education to Eternity

Department of Electronics and Telecommunication Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2021-2022

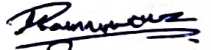




DECLARATION

We hereby declare that the work presented in this project report entitled, **“Robotic Arm Vehicle with Object and Facial Recognition”** in the subject of **Electronics and Telecommunication Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Prof. Mohammad Hassan Ansari**, Electronics and Telecommunication, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

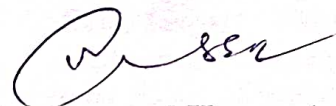
Date:

Name of Students/Students

Mr. Mahesh Shivaji Runnaware 
Mr. Someshwar Muddamwar 
Ms. Damini Chaudhari 
Mr. Kunal Muddamwar 
Mr. Hemant Shende 

CERTIFICATE

This is to certify that the project report entitled, **“Robotic Arm Vehicle with Object and Facial Recognition”** in the subject of **Electronics and Telecommunication** in the faculty of Science and Technology submitted by **Mr. Mahesh Shivaji Runnaware, Ms. Damini Chaudhari, Mr. Kunal Muddamwar, Mr. Someshwar Muddamwar, and Mr. Hemant Shende** to **Dr. Babasaheb Ambedkar Technological University, Lonere** for the award of the degree of **Bachelor of Technology** is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

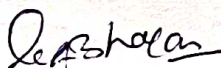


Prof. Mohammad Hassan Ansari
Dept. of ETC Engineering

Forwarded to:



Prof. Amol Dhankar
Project Coordinator
Dept. of ETC Engineering



Prof. Gayatri Bhoyar
Head of the Department
Dept. of ETC Engineering
HOD, Dept. of EN/ETC
JD College of Engineering
& Management, Nagpur



Dr. S. V. Sonekar

Principal


Principal

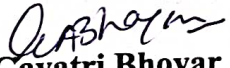
J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501



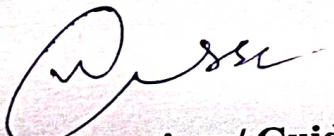
CERTIFICATE OF APPROVAL


This is to certify that the Project Report on "Robotic Arm Vehicle with Object and Facial Recognition" is approved work done by Mr. Mahesh Shivaji Runnaware, Ms. Damini Chaudhari, Mr. Kunal Muddamwar, Mr. Someshwar Muddamwar, and Mr. Hemant Shende in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Electronics and Telecommunication at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere during the academic year 2021-2022.


Prof. Mohammad Hassan Ansari
Name of Guide


Prof. Gayatri Bhoyar
Head of the Department
HOD, Dept. of EN/ETC
JD College of Engineering
& Management, Nagpur

Project Examination held on 28 JUNE, 2022


Internal Examiner/ Guide


External Examiner

ACKNOWLEDGMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B.Tech. We owe our sincerest gratitude towards **Dr. S. V. Sonekar**, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

We also express our sincere gratitude towards **Dr. S. L. Haridas**, Dean Academics, J D College of Engineering and Management, Nagpur, for continuous support and motivation. The constant guidance and encouragement received from **Prof. Gayatri Bhoyar**, Head, Department of Electronics and Telecommunication, J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks. We would like to thank **Prof. Amol Dhankar**, Project Coordinator, J D College of Engineering & Management, and Nagpur for providing proper guidelines and continuous efforts taken towards the completion of the project.

We would like to express a deep sense of gratitude and thanks profusely to our Guide **Prof. Mohammad Hassan Ansari**, Department of Electronics and Telecommunication Engineering, J D College of Engineering & Management, Nagpur. Without his wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of the Electronics and Telecommunication Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

Name of the students

Mr. Mahesh Shivaji Runnaware

Ms. Damini Chaudhari

Mr. Hemant Shende

Mr. Kunal Muddamwar

Mr. Someshwar Muddamwar

ABSTRACT

The design analysis of an Android Controlled Pick and Place Robotic Arm Vehicle with Object and Facial Recognition. This work unravels the fact that man would always want to adhere to safety precautions at workplace and even in its environment, to be able to handle some specific tasks, like sending the robotic vehicle to hazardous environment to obtain samples for chemical analysis. It is a microcontroller based control system which works in alliance with Android Application. It can be accessed by android application and the application can control the movement of vehicle as well as its robotic arms. This system comprises of a Bluetooth module which work as the receiver for vehicle. This sends commands to the microcontroller which execute according to the signals received by Bluetooth. In this work, the design of a robot is presented which will move around in four directions and is equipped with gripper for pick and place operation. These operations will be controlled by a user friendly interface present on operator's mobile phone. Depending upon the button clicked on the application, proper motion commands are given to robot by microcontroller. This project is aimed to design and develop a mobile robot which can move according to the button pressed on App. This prototype can be employed in chemical industry for handling of chemical materials of hazardous nature, or for movement of heavy objects in any industry

Keywords: Robotic Arm, Microcontroller, Bluetooth.

Gesture Control Robot

A Project Report submitted in the partial fulfillment of the requirements

For the award of the degree of

Bachelor of Technology

In

Electronics and Tele-communication

Submitted by

Namira Khan

Sharmin Siddiqui

Rutuja Meshram

Shefali Meshram

Shahbaz Ahmad

Under the Guidance of

Prof. Pranali Langde



Education to Eternity

Department of Electronics and Telecommunication

JD College of Engineering and Management, Nagpur– 441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2021-22

DECLARATION

We hereby declare that the work presented in this project report entitled, "**Gesture Control Robot**" in the subject **Electronics and Telecommunication** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Prof. Pranali Langde**, electronics and telecommunication, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place : **Nagpur**

Name of the students

Date :- **30/06/2022**

Nameera Khan

Sharmin Siddiqui

Rutuja Meshram

Shefali Meshram

Shahbaz Ahmad

CERTIFICATE

This is certify that the project report entitled, "Gesture Control Robot" in the subject **Electronics and Telecommunication** in the faculty of Science and Technology submitted by **Namira Khan, Sharmin Siddiqui, Rutuja Meshram, Shefali Meshram, Shahbaz Ahmad** to **Dr. Babasaheb Ambedkar Technological University, Lonere** for the award of the degree of **Bachelor of Technology** is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.



Prof. Pranali Langde

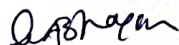
Electronics and Telecommunication

Forwarded to:



Prof. Amol Dhankar

Project Coordinator

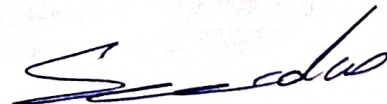


Prof. Gayatri Padole

Head of the Department,

Electronics and Telecommunication

HOD, Dept. of EN/ETC
JD College of Engineering
& Management, Nagpur



Dr. S.V. Sonekar

Principal
J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on “Gesture Control Robot” is approved work done by

Name of the students

Namira Khan

Sharmin Siddiqui

Rutuja Meshram

Shefali Meshram


Shahbaz Ahmad

In partial fulfillment of the requirements for the award of the degree of **Bachelor of Engineering in Electronics And Telecommunication** at J D College of Engineering & Management, Nagpur affiliated to **Dr. Babasaheb Ambedkar Technological University, Lonere** during the academy year 2021-2022.


Prof. Pranali Langde

Project Guide


Project Examination held on 30/06/2022


Internal Examiner / Guide


Prof. Gayatri Padole

Head of the Department

**HOD, Dept. of EN/ETC
JD College of Engineering
& Management, Nagpur**


External Examiner

ACKNOWLEDGEMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B.Tech

We owe our sincerest gratitude towards **Dr. S. V. Sonekar**, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

We also express our sincere gratitude towards **Dr. S.V. Sonekar**, Vice Principal and Dean Academics, J D College of Engineering and Management, Nagpur, for continuous support and motivation.

The constant guidance and encouragement received from **Prof. Gayatri Padole**, Head, Department of Electronics and Telecommunication J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks.

We would like to thank **Prof. Amol Dhankar**, Project Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project.

We would like to express a deep sense of gratitude and thanks profusely to our Guide **Prof. Pranali Langde**, Department of Electronics and Telecommunication, J D College of Engineering & Management, Nagpur. Without his wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of Electronics and Telecommunication Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

Name of the students

Namira Khan

Sharmin Siddiqui

Rutuja Meshram

Shefali Meshram

Shahbaz Khan

ABSTRACT

Gesture Controlled Car is a robotic which may be managed with the aid of using easy human gestures. The user simply desires to put on a gesture tool wherein a sensor is included. The sensor will document the motion of hand in a particular route if you want to bring about the movement of the robotic within the respective directions. The robotic and the Gesture tool are related wirelessly via radio waves. User can have interaction with the robotic in a greater pleasant manner because of the wi-fi communication. .

The foremost goal of the project work is to govern robotic with gestures the use of hand. There are foremost additives of the system: The accelerometer relies upon upon the gestures of the hand. Through accelerometer, a passage of statistics sign is acquired and it's far processed with the help of arduino microcontroller. The microcontroller offers command to the robot to transport within the preferred course.

We can manipulate the automobile the use of accelerometer sensors related to a hand glove. The sensors are meant to update the far off manipulate this is commonly used to run the automobile. It will permit consumer to manipulate the ahead, backward, leftward and rightward movements, even as the use of the identical accelerometer sensor to manipulate the throttle of the automobile. Movement of vehicle is managed via way of means of the differential mechanism. The mechanism entails the rotation of each forth & rear wheels of left or proper aspect to transport within the anticlockwise route and the alternative pair to rotate within the clockwise route which makes the automobile to rotate approximately its very own axis with no type of ahead or backward motion. The important benefit of this mechanism is the automobile with this mechanism can take sharp flip with none difficulty.

54kW Battery pack design-with Pouch cells, Liquid cooling system, BMS , Power distribution unit & Safety system.

A Project Report submitted in partial fulfillment of the requirements
for the award of the degree of
Bachelor of Technology

In
Electronics and Telecommunication Engineering

Submitted by
Ms.Priya C. Dhote
Mr. Anand R. Gajbhiye
Mr. Nikhil M. Ramteke
Mr. Shashank P. Dongare

Under the Guidance of
Prof. PranaliLangde



Education to Eternity

Name of Department

J D College of Engineering and Management, Nagpur-441501
Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2021-22

DECLARATION

We hereby declare that the work presented in this project report entitled, **“54kW Battery pack design-with Pouch cells, Liquid cooling system, BMS, Power distribution unit and Safety system.”** in the subject **Electronics and Telecommunication Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof.PranaliLangde, Electronics and Telecommunication Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

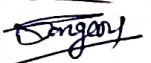
Date: 1/7/22

Name of Students

Ms.Priya C. Dhote 

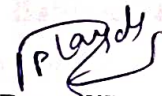
Mr. Anand R. Gajbhiye 

Mr. Nikhil M. Ramteke 

Mr. Shashank P. Dongare 

CERTIFICATE

This is to certify that the project report entitled, “54kW Battery pack design-with Pouch cells, Liquid cooling system, BMS, Power distribution unit and Safety system.” in the subject **Electronics and Telecommunication Engineering** in the faculty of Science and Technology submitted by **Priya C. Dhote, Anand R. Gajbhiye, Nikhil M. Ramteke, Shashank P. Dongareto** **Dr. Babasaheb Ambedkar Technological University, Lonere** for the award of the degree of **Bachelor of Technology** is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

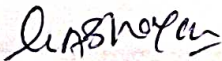


Prof. Pranali Langde
Project Guide
Dept. of ETC Engineering

Forwarded to:

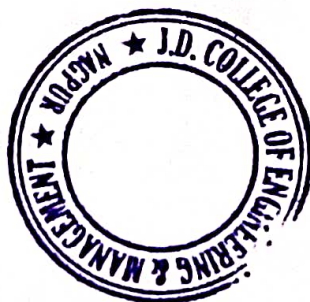


Prof. Amol Dhankar
Project Coordinator



Prof. Gayatri Bhoyar
Head of the Department
Dept. of ETC

HOD, Dept. of EN/ETC
JD College of Engineering
& Management, Nagpur



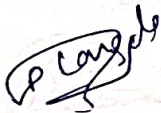
Dr. Shrikant Sonekar
Principal
Principal
J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

CERTIFICATE OF APPROVAL

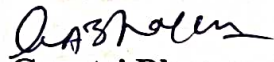
This is to certify that the Project Report on **54KW BATTERY PACK DESIGN-WITH POUCH CELLS, LIQUID COOLING SYSTEM, BMS, POWER DISTRIBUTION UNIT AND SAFETY SYSTEM** is approved work done by

Ms. Priya Dhoté
Mr. Anand Gajbhiye
Mr. Nikhil Ramteke
Mr. Shashank Dongare

in partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology in Electronics and Telecommunication Engineering** at **J D College of Engineering & Management, Nagpur** affiliated to **Dr. Babasaheb Ambedkar Technological University, Lonere** during the academic year 2021-2022.



Prof. Pranali Langde
Project Guide

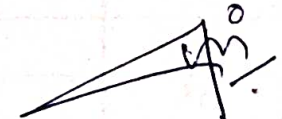


Prof. Gayatri Bhoyar
Head of the Department
HOD, Dept. of EN/ETC
JD College of Engineering
& Management, Nagpur

Project Examination held on _____



Internal Examiner/ Guide



External Examiner

ACKNOWLEDEMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B-Tech we owe our sincerest gratitude towards **Dr. S.V. Sonekar**, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

We also express our sincere gratitude towards **Dr S. L. Haridas**, Dean Academics, J D College of Engineering and Management, Nagpur, for continuous support and motivation.

The constant guidance and encouragement received from **Prof. Gayatri Bhoyar**, Head, Department of Electronics and Telecommunication J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks.

We would like to thank **Prof. Amol Dhankar**, Project Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project.

We would like to express a deep sense of gratitude and thanks profusely to our Guide **Prof. Pranali Langde**, Department of Electronics and Telecommunication, J D College of Engineering & Management, Nagpur. Without her wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of Electronics and Telecommunication Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

Name of the students

Ms. Priya C. Dhote
Mr. Anand R. Gajbhiye
Mr. Nikhil M. Ramteke
Mr. Shashank P. Dongare

ABSTRACT

Development of alternate energy storage systems for transportation use has been driven by a combination of environmental preservation, fossil fuel price volatility and energy security concerns. Lithium-ion battery has emerged as a favoured choice, however its energy density is still orders of magnitude lower than fossil fuel. There is significant room for improvement in the battery cells and Electric Vehicle system design. The objective of this thesis is to automate the design optimization of the Li-ion battery pack. To achieve this goal three separate optimization problems were formulating to provide guidelines on the cell parameters at optimal solutions. The single cell design optimization is able to quantify the variations of morphological parameters as a constant at to mass ratio, the plug in Hybrid Vehicle battery design demonstrates an automated design process that consider realistic performance constraint; the multi cell design approach minimizes the battery pack mass by utilizing separate cell design to satisfy different constraint. The usefulness of the current framework can be further enhance by considering various mechanism and to perform a design - control coupled multidisciplinary optimization.

Mobile Controlling SMART Sanitizing Robot With Medicine Transport System For Covid-19

A Project Report submitted in partial fulfillment of the requirements
for the award of the degree of

Bachelor of Technology

In

Electronics and Telecommunication

Submitted by

Ms. Sahili P.Meshram

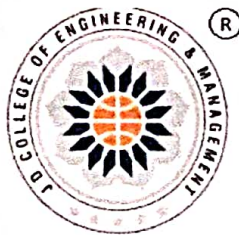
Ms. Dolly Y. Barapatre

Ms. Damini M. Moglewar

Mr. Rohit M. Shahare

Under the Guidance of

Prof. Shyam Bawankar



Education to Eternity

Department of

Electronics and Telecommunication

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2021-2022

DECLARATION

We hereby declare that the work presented in this project report entitled, "**Mobile Controlling SMART Sanitizing Robot With Medicine Transport System For Covid-19**" in the subject **Electronics and Telecommunication** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Prof. Shyam Bawankar**, Electronics and Telecommunication, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree certificate course.

Place:

Date:

Name of Students

Ms. Sahili P. Meshram *S. Meshram*

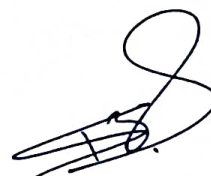
Ms. Dolly Y. Barapatre *Barapatre*

Ms. Damini M. Moglewar *Damini*

Mr. Rohit M. Shahare *Rohit*

CERTIFICATE

This is to certify that the project report entitled, "**Mobile Controlling SMART Sanitizing Robot With Medicine Transport System For Covid-19**" in the subject **Electronics and Telecommunication** in the faculty of Science and Technology submitted by Ms. Sahili Meshram, Ms. Dolly Barapatre, Ms. Damini Moglewari, Mr. Rohit Shahare to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of **Bachelor of Technology** is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

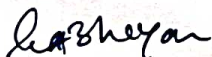


Prof. Shyam Bawankar
Electronics and Telecommunication

Forwarded to:



Prof. Ajay B. Bhankar
(Name of the Project Coordinator)
Project Coordinator



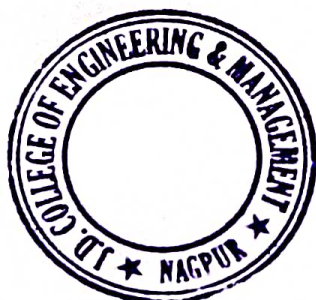
Prof. Gayatri Bhoyar
Head of the Department
Electronics and Telecommunication

HOD, Dept. of Engineering
JD College of Engineering
& Management, Nagpur



Dr. Srikant V. Sonekar
Principal

Principal
J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501



CERTIFICATE OF APPROVAL

This is to certify that the Project Report on **Mobile Controlling SMART Sanitizing Robot With Medicine Transport System For Covid-19** is approved work done by **Ms. Sahili Meshram, Ms. Dolly Barapatre, Ms. Damini Moglewar, Mr. Rohit Shahare** in partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology in Electronics and Telecommunication** at **J D College of Engineering & Management, Nagpur** affiliated to **Dr. Babasaheb Ambedkar Technological University, Lonere** during the academic year 2021-2022.



Prof. Shyam Bawankar

Name of Guide



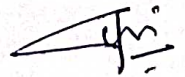
**Prof. Gayatri
Bhoyar**

Head of the Department
HOD, Dept. of EN/ETC
JD College of Engineering
& Management, Nagpur

Project Examination held on _____



Internal Examiner/ Guide



External Examiner

Abstract

Corona Virus disease (Covid19) is wreaking havoc in the world. Ever since WHO announced it as a Pandemic disease and many cities are under lockdown, people are not able to step out of their homes and already thousands have lost their lives. As the global Covid-19 crisis continues to unfold, washing and sanitization of hands and area have become an absolute necessity in daily affairs.

The aim of our project " **Mobile controlling automatic sanitizing robot with medicine transport system for Covid-19**", is simply to help the warrior doctors and nurses who are incessantly working for the aid of the public. As the pandemic cases are increasing day by day, we want to contribute in this situation with our little project. Through this project, we will make an automatic robot which can spray sanitizer on the patients and their belongings and covid wards. This project will be embedded based to control the wireless robot with remote. We will install a camera in the robot so that the Doctors can have a visual of the robot and can take care of their patients. In addition, there will be a holding plate on the robot so that the Doctors can send the medicines or other important things to their patients without even entering into the covid ward. We are also going to charge the robot's battery with solar panels add a gist of renewable energy in our robot's power. At the end, we want that our robot to work in the pandemic situations.

Keywords: Covid -19 , Sanitizer spray , Medical Transport , Arduino Uno , Smartphone Function etc.

INTELLIGENT AUTOMATION FOR APPLIANCES WITH TIMER AND SCHEDULING

**A Project Report submitted in partial fulfillment of the requirements
for the award of the degree of**

Bachelor of Technology

In

Electronics and Telecommunication Engineering

Submitted by

Ms. Sanjana Nardelwar

Mr. Saket Junghare

Mr. Aditya Dhawale

Ms. Nayan Gokhale

Under the Guidance of

Prof. Mohammad Hassan Ansari



Education to Eternity

Department of Electronics & Telecommunication Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2021-2022

DECLARATION


We hereby declare that the work presented in this project report entitled, "**Intelligent Automation for Appliances with Time & Scheduling**" in the subject **Electronics and Telecommunication Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Prof. Mohammad Hassan**, Department of Electronics and Telecommunication Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.


Place:

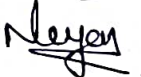
Date:

Name of Students

Ms. Sanjana Nardelwar 

Mr. Saket Junghare 

Mr. Aditya Dhawale 

Ms. Nayan Gokhale 

CERTIFICATE

This is to certify that the project report entitled, "**Intelligent Automation for Appliances with Time & Scheduling**" in the subject **Electronics & Telecommunication** branch in the faculty of Science and Technology submitted by **Ms. Sanjana Nardelwar, Mr. Saket Junghare, Mr. Aditya Dhawale & Ms. Nayan Ghokale** to **Dr. Babasaheb Ambedkar Technological University, Lonere** for the award of the degree of **Bachelor of Technology** is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.



Prof. Mohammad Hassan

Dept. of Electronics &
Telecommunication

Forwarded to:

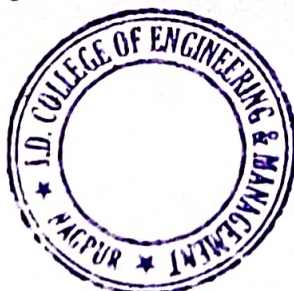


Prof. Amol Dhankar

Project Coordinator
Dept. of Electronics & Telecommunication


Prof. Gayatri Bhoyar

Head of the Department
Electronics & Telecommunication
HOD, Dept. of EN/ETC
J.D. College of Engineering
& Management, Nagpur



Dr. S.V. Sonkar

Principal

Principal
J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on “**INTELLIGENT AUTOMATION FOR APPLIANCES WITH TIMER AND SCHEDULING**” is approved work done by

Ms. Sanjana Nardelwar

Mr. Saket Junghare

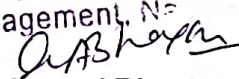
Mr. Aditya Dhawale

Ms. Nayan Gokhale

in partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology in Electronics & Telecommunication Engineering** at J D College of Engineering & Management, Nagpur affiliated to **Dr. Babasaheb Ambedkar Technological University, Lonere** during the academic year 2021-2022.

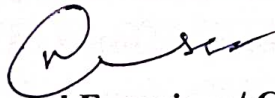


Prof. Mohammad Hassan
Guide

HOD, Dept. of EN/ETC
JD College of Engineering
& Management, Nag.

Prof. Gayatri Bhoyar
Head of the Department

30 June 2022

Project Examination held on _____



Internal Examiner/ Guide



External Examiner

ACKNOWLEDEMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B.TECH. We owe our sincerest gratitude towards **Dr. S.V. Sonekar**, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

We also express our sincere gratitude towards **Dr. S. L. Haridas**, Dean Academics, J D College of Engineering and Management, Nagpur, for continuous support and motivation. The constant guidance and encouragement received from **Prof. Gayatri Bhoyar**, Head, Department of Electronics and Telecommunication, J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks. We would like to thank **Prof. Amol Dhankar**, Project Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project.

We would like to express a deep sense of gratitude and thanks profusely to our Guide **Prof. Mohammad Hassan**, Department of Electronics & Telecommunication Engineering J D College of Engineering & Management, Nagpur. Without his/her wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of **Electronics and Telecommunication Department**, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

Name of the students

Ms. Sanjana Nardelwar

Mr. Saket Junghare

Mr. Aditya Dhawale

Ms. Nayan Gokhale

CHAPTER 1

ABSTRACT

This project depicts the overall architecture of a low-cost, wireless home automation system. It focuses on the creation of an IoT-based home automation system that can control multiple components over the internet or be automatically programmed to work based on environmental circumstances. In this project, we will create a firmware for smart control that can be successfully automated while minimising human contact in order to maintain the integrity of all electrical gadgets in the home. To automate the process, we used Node MCU, a popular open-source IOT platform. Different transmission modes will be used by different components of the system to send the user's control of the devices to the actual appliance via Node MCU.

The main control system implements wireless technology to provide remote access from smart phone. We are using a cloud server-based communication that would add to the practicality of the project by enabling unrestricted access of the appliances to the user irrespective of the distance factor. We provided a data transmission network to create a stronger automation. The system intended to control electrical appliances and devices in house with relatively low cost design, user-friendly interface and ease of installation. The status of the appliance would be available, along with the control on an android platform. This system is designed to assist and provide support in order to fulfill the needs of elderly and disabled in home. Also, the smart home concept in the system improves the standard living at home.

The system is designed to be a low-cost, wireless home automation system. It focuses on the creation of an IoT-based home automation system that can control multiple components over the internet or be automatically programmed to work based on environmental circumstances. In this project, we will create a firmware for smart control that can be successfully automated while minimising human contact in order to maintain the integrity of all electrical gadgets in the home. To automate the process, we used Node MCU, a popular open-source IOT platform. Different transmission modes will be used by different components of the system to send the user's control of the devices to the actual appliance via Node MCU.



Fig. 1.1: Block Diagram of the System

Iot Based Person/Wheelchair Fall Detection System

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Technology

In

Electronics And Telecommunication

Submitted by

Sayali Mangal Kamble

Prateeksha Ramesh Kawale

Suwarna Shyamsundar Mohile

Megha Rupchand Meshram

Under the Guidance of

Prof. Nivedita Nandgave



Education to Eternity

Department of Electronics & Telecommunication Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2021-2022

DECLARATION

We hereby declare that the work presented in this project report entitled, "IoT Based Person/Wheelchair Fall Detection System" in the subject Electronics And Telecommunication in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Nivedita Nandgave, Electronics And Telecommunications, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Sayali Mangal Kamble Kamble
Prateeksha Ramesh Kawale Kawale
Suwarna Shyamsundar Mohile Mohile
Megha Rupchand Meshram Meshram

Place: Nagpur

Date: 01/07/2022

CERTIFICATE

This is to certify that the project report entitled, "IOT Based Person/Wheelchair Fall Detection System" in the subject Electronics And Telecommunication in the faculty of Science and Technology submitted by Miss. Sayali Mangal Kamble, Miss. Prateeksha Ramesh Kawale, Miss. Suvarna Shyamsundar Mohile, Miss Megha Rupchand Meshram to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

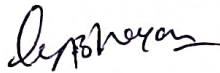


Prof. Nivedita Nandgave
Department of Electronic And
Telecommunications

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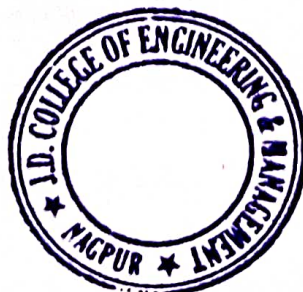


(Prof. Amol Dhankar)
Project Coordinator



(Prof. Gayatri Padole)
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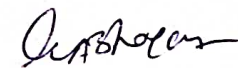
CERTIFICATE OF APPROVAL

This is to certify that the Project Report on IOT Based Person/Wheelchair Fall Detection System is approved work done by,



Name of the Students

Sayali Mangal Kamble
Prateeksha Ramesh Kawale
Suwarna Shyamsundar Mohile
Megha Rupchand Meshram

in partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology** in Electronics And Telecommunications at J D College of Engineering & Management, Nagpur affiliated to **Dr. Babasaheb Ambedkar Technological University, Lonere** during the academic year 2021-2022.


Prof. Nivedita Nandgave
Guide
Prof. Gayatri Padole
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JD College of Engineering
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Project Examination held on 30/06/2022


Internal Examiner/ Guide
External Examiner

ACKNOWLEDEMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of Bachelor of Technology.

We owe our sincerest gratitude towards **Dr. S.V. Sonekar**, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

We also express our sincere gratitude towards **Dr. S.L. Haridas**, Vice Principal and Dean Academics, J D College of Engineering and Management, Nagpur, for continuous support and motivation.

The constant guidance and encouragement received from **Prof. Gayatri Padole**, Head, Department of Electronics and Telecommunication J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks.

We would like to thank **Prof. Amol Dhankar**, Project Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project.

We would like to express a deep sense of gratitude and thanks profusely to our Guide **Nivedita Nandgave**, Department of Electronics and Telecommunication J D College of Engineering & Management, Nagpur. Without his/her wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work.

We express gratitude to other faculty members of Electronics and Telecommunication Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

Name of the students

Sayali Mangal Kamble

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ABSTRACT

Falling down is among the major causes of medical problem that are faced by the elderly people and movement disability person. These people tend to injure themselves from falling down when they alone. When a falling event occurred, medical attention needs to provide immediately in order to reduce the risk of faller from getting severe injuries which may lead to death. Several technologies have been developed which some utilized webcams to monitor their activities. However, the cost of operation and installation is expensive and only applicable for indoor environment. Some user also worried about their privacy issues. Current commercialized device is by wearing a wearable wireless emergency transmitter which restrict movement of user and produce high false alarm. This research proposed a wheelchair-person fall detection system with IoT which is cost effective and reliable to detect fall and alert surrounding to call for help. For fall detection, Accelerometer, GPS module, and microcontroller are implemented into the system.

The Accelerometer is use to detect the position of the wheelchair while the FSR pressure sensor which placed on the sit pad of the wheelchair will be used to detect and recognized the gesture of the user. Both works together to detect fall event which increase the accuracy of the fall detection. GPS module used to allocate the location of the wheelchair when fall event occur. When fall event occur, all the data includes the location of the wheelchair will be sent to blynk mobile application. The IoT system will sent email notification to the registered person to alert them fall event happen and help needed. Moreover, this system requires less implementation cost and provides a quick response. It can install in the existing commercial wheelchair. However, the limitation of this system is it required a good WIFI connection. For future recommendation, a better GUI design can be implemented into the system besides that, more detection system can be added on to increase the accuracy of the system.

IoT Based Smart Switching System

**A Project Report submitted in partial fulfillment of the requirements
for the award of the degree of
Bachelor of Technology
In
Electronics And Telecommunications**

Submitted by

Vaishnavi Shankar Lingayat

Amit Vinayak Hajare

Shubhangi Damodarrao Dhole

Sheerin Parveen Mohd Sheikh

Mansi KedarTembhurne

Swati Devidas Bhaisare

**Under the Guidance of
Prof. Nivedita Nandgave**



Education to Eternity

**Department of Electronics & Telecommunication Engineering
J D College of Engineering and Management, Nagpur-441501
Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.
Year 2021-2022**

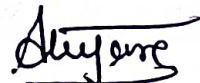
DECLARATION

We hereby declare that the work presented in this project report entitled, **“IOT Based Smart Switching System”** in the subject Electronics And Electronics in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Prof. Nivedita Nandgave**, Electronics And Telecommunications, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

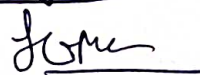
Vaishnavi Shankar Lingayat



Amit Vinayak Hajare



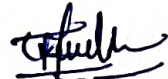
Shubhangi Damodarrao Dhole



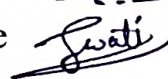
Sheerin Parveen Mohd Sheikh



Mansi KedarTembhurne



Swati Devidas Bhaisare




Place: Nagpur

Date:

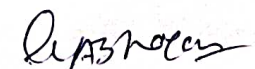
CERTIFICATE


This is to certify that the project report entitled, **“IOT Based Smart Switching System”** in the subject Electronics And Telecommunications in the faculty of Science and Technology submitted by : **Vaishnavi Shankar Lingayat, Amit Hajare, Shubhangi Dhoke, Sheerin Parveen, Mansi Tembhurne, Swati Bhaisare** to **Dr. Babasaheb Ambedkar Technological University, Lonere** for the award of the degree of **Bachelor of Technology** a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.


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Project Coordinator


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CERTIFICATE OF APPROVAL

This is to certify that the Project Report on , “IOT Based Smart Switching System” is approved work done by,

Name of the Students

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Amit Vinayak Hajare

Shubhangi Damodarrao Dhoke

Sheerin Parveen Mohd Sheikh

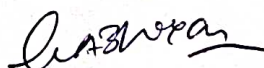
Mansi KedarTembhurne

Swati Devidas Bhaisare

in partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology** in Electronics And Telecommunications at J D College of Engineering & Management, Nagpur affiliated to **Dr.Babasaheb Ambedkar Technological University, Lonere** during the academic year 2021-2022.

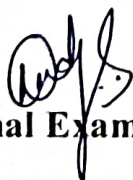


Prof. Nivedita Nandgave
Guide



Prof. Gauatry Padole
Head of the Department
HOD, Dept. of EN/ETC
JD College of Engineering
& Management, Nagpur

Project Examination held on _____



Internal Examiner/ Guide



External Examiner

ACKNOWLEDEMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of Bachelor of Technology.

We owe our sincerest gratitude towards **Dr. S.V. Sonekar**, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

We also express our sincere gratitude towards **Dr. S.L. Haridas**, Vice Principal and Dean Academics, J D College of Engineering and Management, Nagpur, for continuous support and motivation.

The constant guidance and encouragement received from **Prof. Gayatri Padole**, Head, Department of Electronics and Telecommunication J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks.

We would like to thank **Prof. Amol Dhankar**, Project Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project.

We would like to express a deep sense of gratitude and thanks profusely to our Guide **Nivedita Nandgave**, Department of Electronics and Telecommunication J D College of Engineering & Management, Nagpur. Without his/her wise counsel and able guidance, it would have been impossible to complete the project in this manner.

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We express gratitude to other faculty members of Electronics and Telecommunication Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

Name of the students

Vaishnavi Shankar Lingayat
Amit Vinayak Hajare
Shubhangi Damodarrao Dhoke
Sheerin Parveen Mohd Sheikh
Mansi Kedar Tembhurne
Swati Devidas Bhaisare

ABSTRACT

With increase in population and infrastructure, need for energy production is gradually increasing and to full fill the demanding needs of consumers is in organization hands. This brings the issue of energy production and energy distribution for the organization. Existing meters are not so consumer friendly and always need a periodic checking from utility to inform about their monthly tariff, which requires more man power and is a time consuming process. Also the organization is not able to maintain proper record of consumer data. This project aims to reduce this burden and it makes a real time observation of energy consumption for the consumer as well as the organization. The consumer as well as the organization is able to monitor the real time usage of energy and receive notification to their mobile or on organization website. Also, it notifies the consumer about the peak hours and the grid is able to monitor their geographical area. This project involves Node MCU as main controller and for internet communication and sending real time data over internet, current and voltage sensors.

Water Leakage Detection and Monitoring System Using IOT

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Technology

In

Electronics and Telecommunication

Submitted by

Animesh Patil

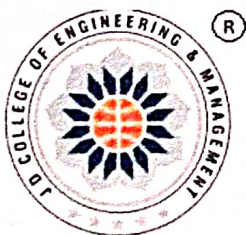
Devashish Shripad

Mohit Madavi

Asmita Bhimte

Under the Guidance of

Prof. Nivedita Nandgave



Education to Eternity

Department of Electronics and Telecommunication

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2021-2022

DECLARATION

We hereby declare that the work presented in this project report entitled, "**Water Leakage Detection And Monitoring System Using IOT**" in the subject **Electronics and Telecommunication** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Prof. Nivedita Nandgave**, Electronics and Telecommunication, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree certificate course.

Place:

Date:

Name of Students

Animesh Patil

Devashish Shripad

Mohit Madavi

Asmita Bhimte

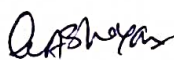
CERTIFICATE

This is to certify that the project report entitled, "Water Leakage Detection And Monitoring System Using IOT" in the subject Electronics and Telecommunication in the faculty of Science and Technology submitted by Animesh Patil Devashish Shripad Mohit Madavi Asmita bhimte to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

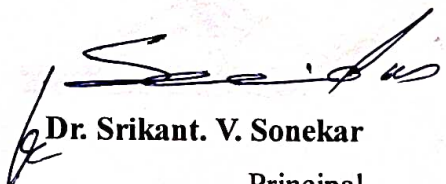

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Prof. Gayatri Bhoyar
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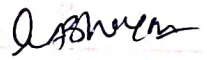


CERTIFICATE OF APPROVAL

This is to certify that the Project Report on **Water Leakage Detection And Monitoring System Using IOT** is approved work done by **Animesh Patil Devashish Shripad Mohit Madavi Asmita bhimte** in partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology in Electronics and Telecommunication** at **J D College of Engineering & Management, Nagpur** affiliated to **Dr. Babasaheb Ambedkar Technological University, Lonere** during the academic year 2021-2022.


Prof. Nivedita Nandgave

Name of Guide


Prof. Gayatri Bhoyar
Head of the Department
HOD, Dept. of EN/ETC
JD College of Engineering & Management, Nagpur

Project Examination held on 30/06/22


Internal Examiner/ Guide


External Examiner

ACKNOWLEDEMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B.Tech.

We owe our sincerest gratitude towards Dr. Srikant V. Sonekar, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

We also express our sincere gratitude towards Dr. S.V. Sonekar, Vice Principal and Dean Academics, J D College of Engineering and Management, Nagpur, for continuous support and motivation.

The constant guidance and encouragement received from Prof. Gayatri Bhojar, Head, Department of Electronics and Telecommunication, J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks.

We would like to thank Prof. Nivedita Nandgave, Project Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project.

We would like to express a deep sense of gratitude and thanks profusely to our Guide Prof. Nivedita Nandgave, Department of Electronics and Telecommunication, J D College of Engineering & Management, Nagpur. Without his wise counsel and able guidance, it would have been impossible to complete the project in this manner.

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Name of the students

Animesh Patil

Devashish Shripad

Mohit Madavi

Asmita Bhimte

ABSTRACT

The water supply shortage has increased in recent years due to overpopulation, climate change and obsolete water facilities, where deteriorated pipes cause most of the water leaks. The problem is not the size of the leak, but the time it takes to detect it. The system consists of a water sensor installed by a water reservoir of interest, a microprocessor to interpret the data and evaluate. The design of a water level sensor device that can detect and control the level of water in a certain water tank, the system firstly senses the amount of water available in the tank by the level detector part and then adjusts the state of the water pump in accordance to the water level information. There has been wastage of water daily through the pipeline leakages due to its full water were never arrived to the taps. The aims of our proposed work are to develop a real-time prototype pipeline leakage alert system whether it is a water leak or not, an SMS alert message, and an electrical actuator to shut off the main water supply to avoid leakage.

Key words: Node MCU, Water Flow Sensor, Ultrasonic Sensor, Buzzer, IOT

A

Project Thesis On

“IoT Based Air Pollution Monitoring And Control System”

A Project Report submitted in partial fulfillment of the
requirements for the award of the degree of

Bachelor of Technology

In

Electronics and Telecommunication

Submitted by

Ankita Kapse

Gulshan Gaikwad

Pranay Modi

Nishigandha Kadwe

Aishwarya Shende

Shrutika Mangate

Under the Guidance of

Prof. Amol Dhankar



Education to Eternity

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J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2021-2022

DECLARATION

We hereby declare that the work presented in this project report entitled, "IoT Based Air Pollution Monitoring And Control System." in the subject **Electronics and Telecommunication** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Prof. Amol Dhankar**, electronics and telecommunication, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date:

Name of the Students

| | | |
|-------------|---------|-------------------|
| Ankita | Kapse | <i>A. Kapse</i> |
| Gulshan | Gaikwad | <i>G. Gaikwad</i> |
| Pranay | Modi | <i>P. Modi</i> |
| Nishigandha | Kadwe | <i>N. Kadwe</i> |
| Aishwarya | Shende | <i>A. Shende</i> |
| Shrutika | Mangate | <i>S. Mangate</i> |

CERTIFICATE

This is to certify that the project report entitled, "IoT Based Air Pollution Monitoring And Control System" in the subject Electronics And Telecommunication in the faculty of Science and Technology submitted by Ankita Kapse, Gulshan Gaikwad, Pranay Modi, Nishigandha Kadwe, Aishwarya Shende, Shrutika Mangate to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

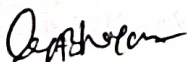


Prof. Amol Dhankar
Electronics and Telecommunication

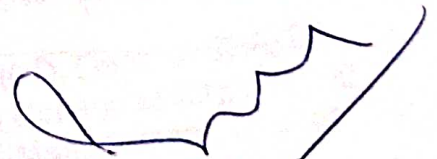
Forwarded to:



Prof. Amol Dhankar
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Prof. Gayatri Padole
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Principal
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CERTIFICATE OF APPROVAL

This is to certify that the Project Report on “IoT Based Air Pollution Monitoring and Control System” is approved work done by

Name of the Students

Ankita Kapse

Gulshan Gaikwad

Pranay Modi

Nishigandha Kadwe

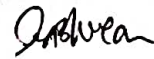
Aishwarya Shende

Shrutika Mangate

in partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology in Electronics and Telecommunication** at J D College of Engineering & Management, Nagpur affiliated to **Dr. Babasaheb Ambedkar Technological University, Lonere** during the academic year 2021-2022.



Prof. Amol Dhankar
Project Guide



Prof. Gayatri Padole
Head of the Department

Project Examination held on

HOD, Dept. of EN/ETC
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Internal Examiner / Guide



External Examiner

ACKNOWLEDGEMENT

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The constant guidance and encouragement received from **Prof. Gayatri Padole**, Head, Department of Electronics and Telecommunication J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks.

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Name of the students

| | |
|-------------|---------|
| Ankita | Kapse |
| Gulshan | Gaikwad |
| Pranay | Modi |
| Nishigandha | Kadwe |
| Aishwarya | Shende |
| Shrutika | Mangate |

ABSTRACT

Air is a major component of nature, involving several gases. All the living things in nature need a good, healthy environment to live in. Thus, it needs all the components of nature to be in its guideline values. But in fact, the air is getting polluted today globally by increasing amount of unnecessary gases beyond its limit.

So, in this case, air needs to be monitored by which we may observe gases like Nitrogen oxide(NO), carbon monoxide(CO₂), Hydrocarbons(HC), Sulfur oxide(SO₂), particulate matter by its ideal guideline values, and which will help maintain environment healthy by local bodies, public awareness, and policymakers.

Such a system with the ESP32 Micro-controller chip we have proposed is based on the use of an IoT platform with hardware- gases sensors like MQ135, MQ6, and DHT11.

This can be used to place roadsides, junctions of roads, squares, and T-points. Information can be served via the internet, and mobile applications publically also. This report deals with controlling & measuring Air Quality using the MQ135 sensor along with Carbon Monoxide CO using the MQ2 sensor and Measuring Air Quality is an important element and temperature measure and filter out toxic gases for bringing a lot of awareness in the people to take care of the future generations a healthier life.

We are trying to implement the same system using IoT platforms like BLYNK, we can bring awareness to every individual about the harm we are doing to our environment.

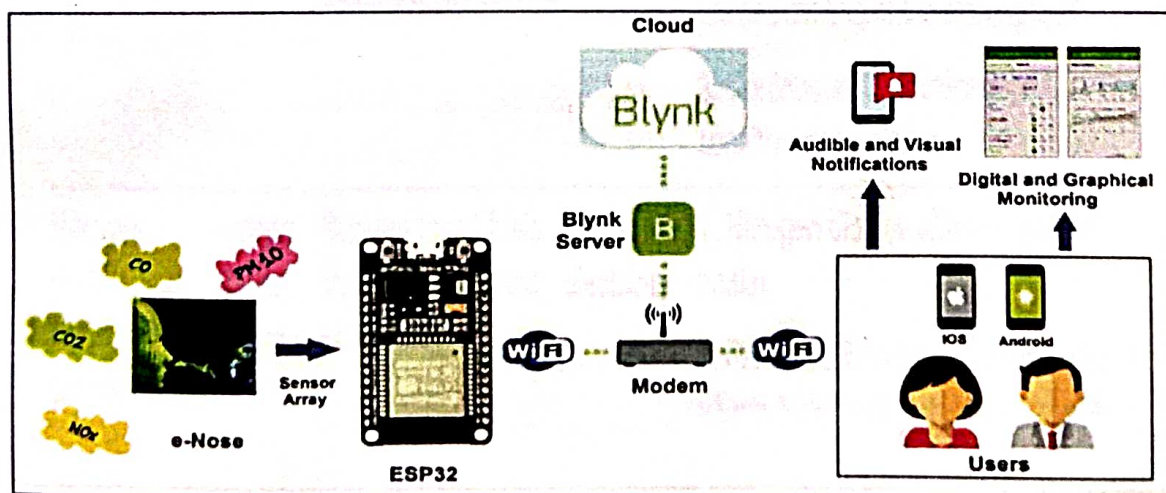


Image 1.1 Frame of operation of the System

| AQI Category, Pollutants and Health Breakpoints | | | | | | | | |
|---|------------------------|-------------------------|-----------------------|---------------------|------------------------------|-----------------------|-----------------------|-----------|
| AQI Category (Range) | PM ₁₀ 24-hr | PM _{2.5} 24-hr | NO ₂ 24-hr | O ₃ 8-hr | CO 8-hr (mg/m ³) | SO ₂ 24-hr | NH ₃ 24-hr | Pb 24-hr |
| Good (0-50) | 0-50 | 0-30 | 0-40 | 0-50 | 0-1.0 | 0-40 | 0-200 | 0-0.5 |
| Satisfactory (51-100) | 51-100 | 31-60 | 41-80 | 51-100 | 1.1-2.0 | 41-80 | 201-400 | 0.5 - 1.0 |
| Moderately polluted (101-200) | 101-250 | 61-90 | 81-180 | 101-168 | 2.1- 10 | 81-380 | 401-800 | 1.1-2.0 |
| Poor (201-300) | 251-350 | 91-120 | 181-280 | 169-208 | 10-17 | 381-800 | 801-1200 | 2.1-3.0 |
| Very poor (301-400) | 351-430 | 121-250 | 281-400 | 209-248 | 17-34 | 801-1600 | 1201-1800 | 3.1-5.3 |
| Severe (401-500) | 431-500 | 251-350 | 401-500 | 249-288 | 34-100 | 1601-3200 | 1801-3600 | 5.4-10.0 |

Table 1.1 Air Quality Index (AQI) and standards

| Pollutant | Main sources | Major effects on air quality and climate change |
|---|--|---|
| Sulphur dioxide (SO ₂) | Burning fossil fuels, e.g., domestic, industrial combustion, shipping, electricity generation. | <ol style="list-style-type: none"> 1. Affects human health. 2. Forms secondary aerosol (sulphate), which affects health and causes cooling of the atmosphere. 3. Contributes to acidification of sensitive ecosystems. |
| Nitrogen oxides (NO _x) [nitric oxide, NO, and nitrogen dioxide, NO ₂] | Burning fossil fuels, e.g., road transport, shipping, electricity generation. | <ol style="list-style-type: none"> 1. Nitrogen dioxide affects human health. 2. Promotes formation of ozone, which affects human and ecosystem health. |

Table 1.2 Chart of sources of air pollution

Design Of Speed Controller For Electric Vehicle Using MATLAB Simulation

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Technology

In

Electronics and Telecommunication Department

Submitted by

Ms. Avani Meshram

Ms. Diksha Indurkar

Ms. Vidya Kinekar

Mr. Dnyandip Kurzekar

Under the Guidance of

Prof. Avinash Ikhar



Education to Eternity

Electronics and Telecommunication Department

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University,

Lonere.

Year 2021-2022

DECLARATION

We hereby declare that the work presented in this project report entitled, "**Design Of Speed Controller For Electric Vehicle Using MATLAB Simulation**" in the subject **Electronics and Telecommunication** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Prof. Avinash Ikhur** Electronics and Telecommunication Department, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Name of students

Mrs. Anam Mishra



Mrs. Diksha Indurkar

Mrs. Vidya Karzkar



Mrs. Dnyandip Karzkar

Place: Nagpur

Date:

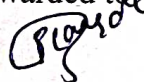
CERTIFICATE

This is to certify that the project report entitled, “**Design Of Speed Controller For Electric Vehicle Using MATLAB Simulation**” in the subject **Electronics and Telecommunication** in the faculty of Science and Technology submitted by **Avani Meshram, Diksha Indurkar, Vidya Kinekar, Dnyandip Kurzekar** to **Dr. Babasaheb Ambedkar Technological University, Lonere** for the award of the degree of **Bachelor of Technology** is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

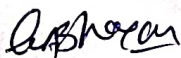


Prof. Avinash Ikhar

Project Guide
Dept. of ETC Engineering

Forwarded to
for 

Prof. Amol Dhankar
Project Coordinator



Prof. Gayatri Bhoyar

Head of the Department
Dept. of ETC



Dr. S. V. Sonekar

Principal
Principal

J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on **Design Of Speed Controller For Electric Vehicle Using MATLAB Simulation** is approved work done by

Ms. Avani Meshram

Ms. Diksha Indurkar

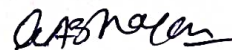
Ms. Vidya Kinekar

Mr. Dnyandip Kurzekar

In partial fulfillment of the requirements for the award of the degree of **Bachelor of Engineering in Electronics and Telecommunication** at J D College of Engineering & Management, Nagpur affiliated to **Dr. Babasaheb Ambedkar Technological University, Lonere** during the academic year 2021-2022.



Prof. Avinash Ikhar
Project Guide



Prof. Gayatri Bhoyar
Head of the Department

Project Examination held on 28/06/2022



Internal Examiner/ Guide



External Examiner

ACKNOWLEDEMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B-Tech we owe our sincerest gratitude towards **Dr. S.V. Sonekar**, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

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We would like to thank **Prof. Amol Dhankar**, Project Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project.

We would like to express a deep sense of gratitude and thanks profusely to our Guide **Prof. Avinash Ikhar**, Department of Electronics and Telecommunication, J D College of Engineering & Management, Nagpur. Without her wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of Electronics and Telecommunication Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

Name of Students

Ms. Avani Meshram
Ms. Diksha Indurkar
Ms. Vidya Kinekar
Mr. Dnyandip Kurzekar

ABSTRACT

Brushless DC Motor (BLDC) find wide applications in enterprises because of their powerful thickness and simplicity of control. These motor are for the most part controlled utilizing a three stage control semiconductor connects. For beginning and the giving appropriate substitution succession to turn on the power de indecencies in the inverter connect the rotor position sensors required. In view of the rotor place particle, the power gadgets are commutated successively every 60 degrees. To accomplish coveted level of execution the engine requires reasonable speed controllers. If there should be an occurrence of changeless magnet engines, for the most part speed control is accomplished by utilizing corresponding vital (PI) controller. Albeit traditional PI controllers are broadly utilized as a part of the business because of their basic control structure and simplicity of usage, these controllers posture troubles where there are some control many-sided quality for example, nonlinearity, stack aggravations and parametric varieties. In addition PI controllers require exact direct numerical model.

As per the scientific model of a brushless DC motor, utilizing MATLAB/Simulink to fabricate different free useful modules, and coordinated into the recreation model of brush less DC motor control framework. The framework utilizes the twofold circle of control mode, including the internal current circle and the external speed circle, to guarantee that the motor is execution well in the high and low speed, and framework has begin quick, adaptable control, strength and different favorable circumstances. By directing the two recreation trials of following the speed and keeping the speed strength, we for starters confirm the adequacy and sensible of the framework demonstrating technique and the practicality of the control framework outline, reenactment and setting parameters can likewise be made to advance the real controller control and dispatching reference.

Automated 4DOF Robotic Arm

A Project Report submitted in partial fulfillment of the requirements for
the award of the degree of

Bachelor of Technology

In

Electronics and Telecommunication

Submitted by

Ms. Bhagyashri Patle

Mr. Nilesh Pathrabe

Mr. Chaitanya Thiske

Mr. Roshan Varma

Under the Guidance of

Prof. Amol Dhankar



Education to Eternity

Department of Electronics and Telecommunication

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2021-2022

DECLARATION

We hereby declare that the work presented in this project report entitled, "**Automated 4DOF Robotic Arm**" in the subject **Electronics and Telecommunication Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Prof. Amol Dhankar**, Electronics and Telecommunication, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree certificate course.

Name of Students

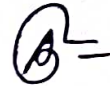
Ms. Bhagyashri Patle Bhag
Mr. Nilesh Pathrabe N. R. Pathrabe
Mr. Chaitanya Thiske Chaitanya
Mr. Roshan Varma Roshan

Place: Nagpur

Date:

CERTIFICATE

This is to certify that the project report entitled, "Automated 4DOF Robotic Arm" in the subject **Electronics and Telecommunication** in the faculty of Science and Technology submitted by **Ms. Bhagyashri Patle, Mr. Nilesh Pathrabe, Mr. Chaitanya Thiske, Mr. Roshan Varma** to **Dr. Babasaheb Ambedkar Technological University, Lonere** for the award of the degree of **Bachelor of Technology** is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

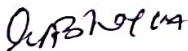


Prof. Amol Dhankar
Project Guide
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Forwarded to:



Prof. Amol Dhankar
Project Coordinator
Dept. of ETC Engineering

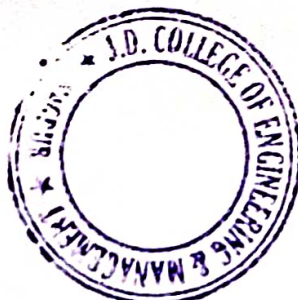


Prof. Gayatri Bhoyar
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Dr. S. V. Sonekar
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CERTIFICATE OF APPROVAL

This is to certify that the Project Report on **AUTOMATED 4DOF ROBOTIC ARM** is approved work done by

Ms. Bhagyashri Patle

Mr. Nilesh Pathrabe

Mr. Chaitanya Thiske

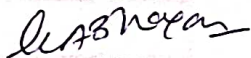
Mr. Roshan Varma

in partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology in Electronics and Telecommunication** at J D College of Engineering & Management, Nagpur affiliated to **Dr. Babasaheb Ambedkar Technological University, Lonere** during the academic year 2021-2022.



Prof. Amol Dhankar

Project Guide



Prof. Gayatri Bhoyar

Head of the Department

2

Project Examination held on 28/06/2022



Internal Examiner/ Guide



External Examiner

ACKNOWLEDEMENT

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Name of the students:

Ms. Bhagyashri Patle

Mr. Nilesh Pathrabe

Mr. Chaitanya Thiske

Mr. Roshan Varma

ABSTRACT

In this work, we develop a robotic system that includes the detection of colored objects and their corresponding classification. The color sensor identifies objects with three colors such as red, green, and blue. The programmable TCS3200 module based on light-frequency converter technology is used to identify different things by color. This self-intelligent robotic system performs all activities automatically and manually as the system gets the required energy. Today, these automated systems are more commonly used in various industrial professions where automation and self-intelligence are highly recommended. The project aims to focus all axes of the manipulator to lift, carry and unload the objects at the desired location.

Patient Health Monitoring with an Arduino Based Smart Mirror

A Project Report submitted in partial fulfillment of the requirements
for the award of the degree of

Bachelor of Technology

In

Department of Electronics & Telecommunication Engineering

Submitted by

Ms. Dikshita Badwaik

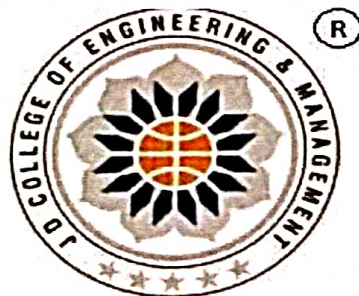
Ms. Ekta Game

Ms. Pranali Kathote

Ms. Pooja Zade

Under the Guidance of

Prof. Tushar Muratkar



Education to Eternity

Department of Electronics & Telecommunication Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere

Year 2021-22

DECLARATION

We hereby declare that the work presented in this project report entitled, "**Patient Health Monitoring with an Arduino Based Smart Mirror**" in the subject of **Electronics & Telecommunication Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Tushar Muratkar, Department of Electronics & Telecommunication Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree.

Place: Nagpur

Date: 28/06/2022

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Ms. Ekta Game E.S. game

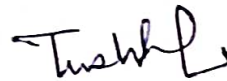
Ms. Pooja Zade Pooja

Ms. Pranali Kathote Pranali

CERTIFICATE

This is to certify that the project report entitled, "Patient Health Monitoring with an Arduino Based Smart Mirror" on the subject of Electronics & Telecommunication Engineering in the faculty of Science and Technology submitted by Ms. Dikshita Badwaik, Ms. Ekta Game, Ms. Pooja Zade & Ms. Pranali Kathote to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in whole or in parts, have not been submitted or published to any other Institute or University for the award of any degree.

Forwarded to:



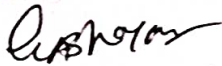
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Department of Electronics & Telecommunication
Engineering



Prof. Amol Dhankar

Project Coordinator



Prof. Gayatri Padole

Head of the Department

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HOD, Dept. of EN/ETC
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Dr. S. V. Sonekar

Principal

Principal

J.D. College of Engineering & Management
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CERTIFICATE OF APPROVAL

This is to certify that the Project Report on **Patient Health Monitoring with an Arduino Based Smart Mirror** is approved work done by

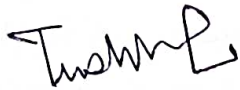
Ms. Dikshita Badwaik

Ms. Ekta Game

Ms. Pranali Kathote

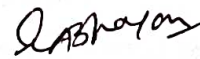
Ms. Pooja Zade

in partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology** in the **Department of Electronics & Telecommunication Engineering** at **J D College of Engineering & Management, Nagpur** affiliated to **Dr. Babasaheb Ambedkar Technological University, Lonere** during the academic year 2021-2022.



Prof. Tushar Muratkar

Guide

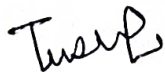


Prof. Gayatri Padole

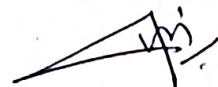
Head of the Department

HOD, Dept. of EN/ETC
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Project Examination held on 28/06/2022



Internal Examiner/ Guide



External Examiner

ACKNOWLEDGMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B.Tech. We owe our sincerest gratitude to **Dr. S. V. Sonekar**, Principal of J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities. We also express our sincere gratitude towards **Dr. S. L. Haridas**, Dean Academics, J D College of Engineering and Management, Nagpur, for continuous support and motivation. The constant guidance and encouragement received from **Prof. Gayatri Padole**, Head of Department of Electronics & Telecommunication Engineering, J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks.

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Submitted by:

Ms. Dikshita Badwaik

Ms. Ekta Game

Ms. Pooja Zade

Ms. Pranali Kathote

CHAPTER NO.: 01

ABSTRACT

Inexpensive embedded computing and therefore the connected web of Things technologies change the recent development of good products that may reply to human desires and improve everyday tasks in a shot to create ancient environments additional "intelligent". Many come have increased mirrors for a variety of smarter applications in vehicles and houses. The opportunity to use good mirror technology in health care to predict and observe aspects of health and unwellness could be a natural however mostly underdeveloped plan. We tend to envision that good mirrors comprising a mix of intelligent hardware and software packages might identify delicate, however, clinically relevant changes in physique and look. Successful development and implementation of good mirrors for health care applications would force overcoming new challenges in engineering, machine learning, laptop vision, and medical specialty analysis. This paper examines the potential uses of good mirrors in health care and explores how this technology may profit users in varied medical environments.

The medical world today faces basic two problems when it comes to patient monitoring, firstly the need of healthcare providers present bedside the patient and secondly the patient is restricted to bed and wired to large machines. To achieve better quality patient care, the above cited problems have to be solved. This paper presents an IoT based E-Health Monitoring System using Arduino Mega which monitors certain health parameters of the patient and broadcasts the monitored data on a particular IP address(Wi-Fi). A prototype of the proposed system has been built to demonstrate its performance.

Automated Inspection System for Assembled Printed Circuit Board Using Machine Vision

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Technology

In

Electronics and Telecommunication Department

Submitted by

Mr. Harish Goupale

Mr. Pranay Chavhan

Ms. Twinkal Bhaisare

Ms. Sneha Kumbhare

Under the Guidance of

Prof. Gayatri Bhoyar



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Electronics and Telecommunication Department

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University,

Lonere.

Year 2021-2022

DECLARATION

We hereby declare that the work presented in this project report entitled, “**Automated Inspection System for Assembled Printed Circuit Board Using Machine Vision**” in the subject **Electronics and Telecommunication** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Prof. Gayatri Bhoyar** Electronics and Telecommunication Department, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Name of students

Mr. Harish Goupale

Mr. Pranay Chavhan

Ms. Twinkal Bhaisare

Ms. Sneha Kumbhare

Place: Nagpur

Date:

CERTIFICATE

This is to certify that the project report entitled, "Automated Inspection System for Assembled Printed Circuit Board Using Machine Vision" in the subject Electronics and Telecommunication in the faculty of Science and Technology submitted by Harish Goupale, Pranay Chavhan, Twinkal Bhaisare, Sneha Kumbhare to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Gayatri Bhoyar 27/06/2022
Prof. Gayatri Bhoyar

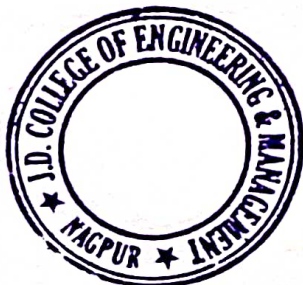
Project Guide
Dept. of ETC Engineering

Forwarded to:

Amol Dhankar 27/06/2022
Prof. Amol Dhankar
Project Coordinator

Gayatri Bhoyar 27/06/2022
Prof. Gayatri Bhoyar

Head of the Department
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HOD, Dept. of EN/ETC
JD College of Engineering
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S. V. Sonekar
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Principal
Principal
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Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on **Automated Inspection System for Assembled Printed Circuit Board Using Machine Vision** is approved work done by

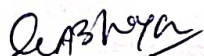
Mr. Harish Goupale

Mr. Pranay Chavhan

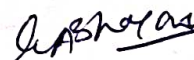
Ms. Twinkal Bhaisare

Ms. Sneha Kumbhare

In partial fulfillment of the requirements for the award of the degree of **Bachelor of Engineering in Electronics and Telecommunication** at J D College of Engineering & Management, Nagpur affiliated to **Dr. Babasaheb Ambedkar Technological University, Lonere** during the academic year 2021-2022.



Prof. Gayatri Bhoyar
Project Guide



Prof. Gayatri Bhoyar
Head of the Department

Project Examination held on _____

Internal Examiner/ Guide

External Examiner

ACKNOWLEDEMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B-Tech we owe our sincerest gratitude towards **Dr. S.V. Sonekar**, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

We also express our sincere gratitude towards **Dr S. L. Haridas**, Dean Academics, J D College of Engineering and Management, Nagpur, for continuous support and motivation. The constant guidance and encouragement received from **Prof. Gayatri Bhoyar**, Head, Department of Electronics and Telecommunication J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks.

We would like to thank **Prof. Amol Dhankar**, Project Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project.

We would like to express a deep sense of gratitude and thanks profusely to our Guide **Prof. Gayatri Bhoyar**, Department of Electronics and Telecommunication, J D College of Engineering & Management, Nagpur. Without her wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of Electronics and Telecommunication Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

Name of Students

Mr. Harish Goupale

Mr. Pranay Chavhan

Ms. Twinkal Bhaisare

Ms. Sneha Kumbhare

ABSTRACT

The perfect Printed Circuit Board (PCB) plays a very important role in every electronic device as well as in automation systems. So, it is very important to find defects in the PCB before installing it to any system or any device. However, PCB Manufacturers use various inspection systems in the process of manufacturing PCBs for detecting various types of defects in the PCB. In this article, we present the Automated assembled PCB Inspection System. This system finds defects such as missing components and improper position of its components by using the Pattern matching Technique where a good known score of template image is matched with the score of the test image. This system gives results at each inspection within 10 Seconds and the result given by this system are passed or fail in the form of an array sheet. This automated inspection system is created by using NI Vision Builder AI and NI LabVIEW technology. Ni Vision Builder AI has been used to create the algorithm. And NI LabVIEW has been used to create the application.

GENERATION OF ELECTRICITY FROM EXHAUST FAN

A Project Report submitted in partial fulfillment of the requirements
for the award of the degree of

Bachelor of Technology

In

Specialization

Submitted by

Name of the Student/s

Harshad Papadkar(GL)

Harshal Sonekar

Vrushabh Kumbhare

Shrawan Dhurve

Under the Guidance of

Prof. Firoz Akhtar



Education to Eternity

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J D College of Engineering and Management, Nagpur-441501

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Year 2021-22

DECLARATION

We hereby declare that the work presented in this project report entitled, "GENERATION OF ELECTRICITY FROM EXHAUST FAN" in the subject Electronics & Tele-communication in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Dr./Prof. Firoz Akhtar, Electronics & Tele-communication Department, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date: 30/06/2022

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This is to certify that the project report entitled, "**GENERATION OF ELECTRICITY FROM EXHAUST FAN**" in the subject **Electronics & Telecommunication** in the faculty of Science and Technology submitted by **Harshad Papadkar, Harshal Sonekar, Vrushabh Kumbhare, Shrawan Dhurve** to **Dr. Babasaheb Ambedkar Technological University, Lonere** for the award of the degree of **Bachelor of Technology** is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

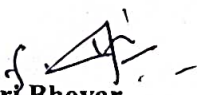


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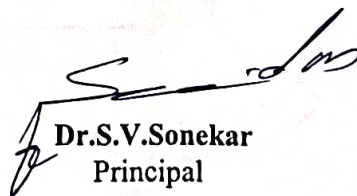


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This is to certify that the Project Report on **GENERATION OF ELECTRICITY FROM EXHAUST FAN** is approved work done by

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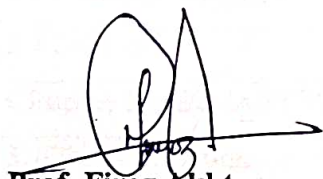
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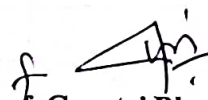
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ACKNOWLEDEMENT

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The constant guidance and encouragement received from **Prof. Gayatri Bhoyar**, Head, Department of Electronics and Tele-Communication J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks.

We would like to thank **Prof. Amol Dhankar**, Project Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project.

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We express gratitude to other faculty members of Electronics and Tele-Communication Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

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Harshad Papadkar(GL)

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ABSTRACT

From home, offices, to industries there is great demand for a variety of exhaust fans. Exhaust fans are available at various specification such as RPM, watts, current, speed. etc. Most industrial units vary huge and high speed exhaust fan are required which runs continuously. Such exhaust fans consume a large amount of electric current and energy, An attempt is made in our project to utilize the exhaust fan air flow (exhaust wind) to rotate the blades of a turbine which is coupled to an electric generator. It is like a wind energy generator. When the exhaust fan turned ON, the exhaust high speed air flow (exhaust wind) turns the blades of the turbine, which ultimately rotates the generator. The generator converts mechanical power into electric energy. This project may be applicable to small scale energy generation. The electrical energy may be stored in rechargeable batteries, a super capacitor or any other mode of storage mechanism. The stored energy can be used for inverts etc. For greater efficiency of this system exhaust air flow can be focused directly through the pipes at the turbine blade.

IOT BASED HEALTH MONITORING SYSTEM FOR COVID-19 PATIENT

A Project Report submitted in partial fulfillment of the requirements
for the award of the degree of

**Bachelor of Technology
in
Electronic and Telecommunication**

**Submitted by
Mr. Lokesh Yelne
Mr. Ritish Khangar
Mr. Nikhil Mahure
Mr. Hanuman Jambulkar
Mr. Mayur Hattimare**

**Under the Guidance of
Prof. Shailesh Sakhare**



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Year 2021-2022**

DECLARATION

We hereby declare that the work presented in this project report entitled, **“IoT Based Health Monitoring System For Covid-19 Patients”** in the subject **Electronics and Telecommunication Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Prof. Shailesh Sakhare**, Department of Electronics and Telecommunication Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

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Prof. Shailesh Sakhare

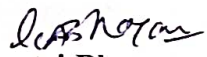
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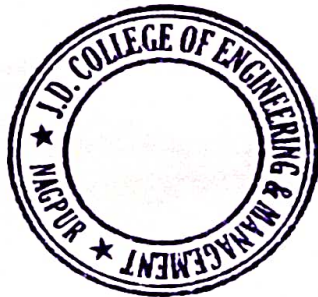
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CERTIFICATE OF APPROVAL

This is to certify that the Project Report on “IoT Based Health Monitoring System For Covid-19 Patients” is approved work done by

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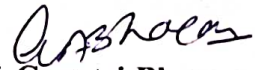
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ACKNOWLEDGEMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B.TECH. We owe our sincerest gratitude towards **Dr. S.V. Sonekar**, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

The constant guidance and encouragement received from **Prof. Gayatri Bhoyar**, Head, Department of Electronics and Telecommunication, J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks. We would like to thank **Prof. Amol Dhankar**, Project Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project.

We would like to express a deep sense of gratitude and thanks profusely to our **Guide Prof. Shailesh Sakhare**, Department of Electronics & Telecommunication Engineering J D College of Engineering & Management, Nagpur. Without his/her wise counsel and able guidance, it would have been impossible to complete the project in this manner. We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of **Electronics and Telecommunication Department**, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

Name of the students

Mr. Lokesh Yelne

Mr. Ritish Khangar

Mr. Nikhil Mahure

Mr. Hanuman Jambulkar

Mr. Mayur Hattimare

ABSTRACT

Currently, the COVID-19 pandemic is one of the major global issues faced by health organizations. As a person enters old age, it becomes increasingly vital for them to undergo standard medical health checkups. Since it may be time consuming and difficult for most people to get regular health checkup appointments, IoT-based arrangements can be beneficial to individuals for routine health checkups. We are utilizing the internet of things to monitor several characteristics of the patient in this project. The real-time parameters of a patient's health are transferred to the cloud via Internet connectivity in the patient Monitoring system based on the Internet of things project.

These parameters are transmitted to IoT server where people can access them from any point on the planet. We demonstrate a multi-parameter Wearable sensor system that works in tandem with the Internet of Things to provide real-time, unobtrusive Monitoring of core body temperature and heart rate. Clinical study demonstrating the importance of sustaining precise measurements of core heartbeat and body temperature in the ambulatory environment and during Activity to examine human thermoregulation. We use a wireless multisensory system to monitor the temperature of the body as well as the pulse of the heart.

Real-Time Object Detection using Deep Learning

A Project Report submitted in partial fulfillment of the requirements

For the award of the degree of

Bachelor of Technology

In

Information Technology Department

Submitted by

Ms. Adwitiya Padigel

Mr. Tushar Chintanwar

Ms. Pooja Khobragade

Ms. Shruti Landge

Ms. Tanu Awachat

Under the Guidance of

Prof. Manoj Lade



Education to Eternity

Information Technology

J D College of Engineering and Management, Nagpur-441501

An Autonomous Institute, with NAAC "A" Grade

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere

Year 2021-22

Real-Time Object Detection using Deep Learning

A Project Report submitted in partial fulfillment of the requirements

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Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere

Year 2021-22

DECLARATION

We hereby declare that the work presented in this project report entitled, "**Real-Time Object Detection Using Deep Learning**" in the subject **Information Technology** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Manoj Lade, Information Technology, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

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Ms. Shruti Landge Shruti
Ms. Tanu Awachat Tanu

Place: Nagpur

Date: 22/06/23


CERTIFICATE


This is to certify that the project report entitled, **“Real-Time Object Detection using Deep Learning”** in the subject **Information Technology** in the faculty of Science and Technology submitted by **Ms. Adwitiya Padigel, Mr. Tushar Chintanwar, Ms. Pooja Khobragade, Ms. Shruti Landge, Ms. Tanu Awachat** to **Dr. Babasaheb Ambedkar Technological University, Lonere** for the award of the degree of **Bachelor of Technology** is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

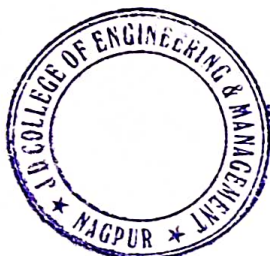

Prof. Manoj Lade

Project Guide
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Prof. Supriya Sawwashere
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Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on **Real-Time Object Detection using Deep Learning** is approved work done by **Ms. Adwitiya Padigel, Mr. Tushar Chintanwar, Ms. Pooja Khobragade, Ms. Shruti Landge, Ms. Tanu Awachat** in partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology in Information Technology Department** at **J D College of Engineering & Management, Nagpur** affiliated to **Dr. Babasaheb Ambedkar Technological University, Lonere** during the academic year 2021-2022.




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Prof. Supriya Sawwashire
Head of the Department

Project Examination held on.



Internal Examiner/ Guide

External Examiner

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ACKNOWLEDEMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B.Tech. We owe our sincerest gratitude towards **Dr. S. V. Sonekar**, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

The constant guidance and encouragement received from **Prof. Supriya Sawwashere**, Head, Department of Information Technology Department J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks.

We would like to thank **Prof. Bhagyashree Madan**, Project Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project.

We would like to express a deep sense of gratitude and thanks profusely to our Guide **Prof. Manoj Lade**, Department of Information Technology, J D College of Engineering & Management, Nagpur. Without his/her wise counsel and able guidance, it would have been impossible to complete the project in this manner.

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Ms. Adwitiya Padigel
Mr. Tushar Chintanwar
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ABBREVIATIONS

| | |
|-------|-------------------------------------|
| AI | Artificial Intelligence |
| AR | Autoregressive Model |
| ARMA | Autoregressive Moving Average Model |
| ARMAX | ARMA with external input |
| ASM1 | Activated Sludge Model 1 |
| ASM2 | Activated Sludge Model 2 |
| BOD | Biochemical Oxygen Demand |
| GA | Genetic Algorithm |

ABSTRACT

Object detection is a branch of computer vision that looks for instances of lexical entities in images and videos. The system will continuously capture multiple frames using the camera of ESP-32 Cam in real-time. We are programming our ESP-32 Cam by using Arduino IDE. With our SSD Deep Learning object detection model that is trained on the COCO Dataset, using the Tensorflow.js Library, object detection will take place. The output contains the information about the object identity, accuracy percentage, and distance in the form of pixels. When used in conjunction with the Ultrasonic Sensor, the output will contain the distance of the object from the system in standard units. Then, by using Google Text-To-Speech, the text is converted into audio segments. Hence, the object identity (or person if detected) along with the distance is conveyed to the blind person. This system can detect multiple objects simultaneously at a 90-degree wide angle. For better communication, we add a small antenna which provides us better WIFI range and stability. We also attach a lightweight battery for portability. The setup will be integrated on a walking stick for the visually impaired person.

IOT BASED HEALTH MONITORING SYSYEM

A Project Report submitted in partial fulfillment of the requirements
for the award of the degree of

Bachelor of Technology

In

Information Technology

Submitted by

Ms. Karishma Madame

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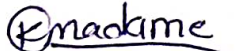
DECLARATION

We hereby declare that the work presented in this project report entitled, “IoT Based Health Monitoring System” in the subject Information Technology in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. **Mirza Moiz Baig**, Department of Information Technology, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

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Date:

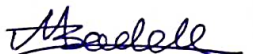
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Ms. Karishma Madame 

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CERTIFICATE

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Mr. Mayur Badole to Dr. Babasaheb Ambedkar Technological University, Lonere. for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.



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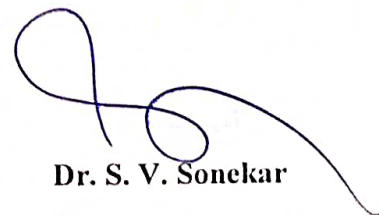
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Mr. Mayur Badole

in partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology in Information Technology** at **J D College of Engineering & Management, Nagpur. Dr. Babasaheb Ambedkar Technological University, Lonere** during the academic year 2021-2022.



Prof. Mirza Moiz Baig

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ACKNOWLEDEMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B.Tech.

We owe our sincerest gratitude towards **Dr. S. V. Sonekar**, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

The constant guidance and encouragement received from **Prof. Supriya Sawwashere**, Head, Department of Information Technology, J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks.

We would like to thank **Prof. Bhageshree Madan**, Project Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project.

We would like to express a deep sense of gratitude and thanks profusely to our **Guide Prof. Mirza Moiz Baig**, Department of Computer Science Engineering, J D College of Engineering & Management, Nagpur. Without his/her wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work.

We express gratitude to other faculty members of **Computer Science Engineering Department**, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

Name of the students

Ms. Karishma Madame

Ms. Reshma Ninawe

Ms. Aakansha Wasnik

Ms. Pallavi Bagde

Mr. Mayur Badole

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ABBREVIATIONS

| | |
|-----|--|
| IOT | Internet of Things |
| ADC | Analogue to Digital Converter |
| PH | Potential of Hydrogen |
| ECG | Electrocardiography |
| GSM | Global System for Mobile Communication |
| LCD | Liquid Crystal Display |
| LED | Light Emitting Diode |

SYMBOLS

| | |
|------|--|
| Spo2 | Peripheral Capillary Oxygen Saturation |
| IR | Infrared Sensor |
| GND | Ground |
| LO- | Lead of Detects - |
| LO+ | Lead of Detects + |
| VCC | Voltage Common Collector |

ABSTRACT

Today, heart disease is considered one of the leading causes of untimely death. Thus, engineers have developed a variety of therapeutic devices to diagnose and evaluate various diseases. Health care has become one of the most important issues for both individuals and governments due to rapid population growth and medical costs. Many patients suffer from cardiovascular complications that cause serious threats to their health, so they need constant monitoring with a traditional monitoring system such as Electrocardiographic (ECG) which is a very important method used to measure cardiac output, this procedure is available only for the most expensive and remote hospital for remote patients. The development of wireless technology enables the construction of a network of Internet-connected devices. The proposed ECG monitoring system consists of the AD8382 ECG sensor for reading patient data, the ESP8266 Wi-Fi control module, and the IoT User Interface. The implementation of the proposed ECG health care system enables the physician to monitor the patient remotely using the IoT User program function, as well as the function of life support equipment, for the purpose of directing management decisions.

The project introduces wearable, portable, low power consumption, real-time bio-real-time signal monitoring system. This initiative provides an advanced step for the remote healthcare sector. The number of people, who need health care is increasing every year and standard bio-signals monitoring systems require that patients be present within hospitals.

This may result in poor patient care, especially for those with serious health problems. Therefore, internet technology and modern electronic devices can provide promising solutions in this field. Based on that, the project uses the mobile application as an IoT platform to remotely monitor live ECG signal, heart rate, SPO2, PH, and patient body temperature. Signals are measured and processed using a microcontroller-based device.

The main contribution of this paper is to send an electrocardiogram (ECG signal) to a specific smart phone for medical attention. This helps diagnose heart disease before it

gets worse. Finally, the results obtained for this project are displayed on the smartphone.

Keywords – ECG, Arduino Nano, ESP8266.

Chapter 1

IMPLEMENTATION OF ANDROID BASED SMART WALLET

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Technology

In

Information Technology

Submitted by

**Mr. Sahil Sarode
Ms. Shruti Dongre
Mr. Ritesh Meshram
Mr. Aniket Bhoyar**

Under the Guidance of

Prof. Jolly Nikhade



Education to Eternity

Information Technology

J D College of Engineering and Management Nagpur - 441501

(An Autonomous Institute, with NAAC "A" Grade)

**Affiliated to Dr. Babasaheb Ambedkar Technological University
Year 2021-2022**

DECLARATION

We hereby declare that the work presented in this project report entitled, **"Implementation of Android Based Smart Wallet"** in the subject **Information Technology & Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Prof. Jolly Nikhade**, Department of IT, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University of Institution of the award of any degree or diploma or certificate course.

Place: Nagpur

Date:

Name of Students

Mr. Sahil Sarode
Ms. Shruti Dongre
Mr. Ritesh Meshram
Mr. Aniket Bhoyar



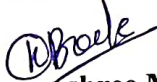
CERTIFICATE

This is certify that the project report entitled "Implementation of Android Based Smart Wallet" in the subject Information Technology & Engineering in the faculty of Science and Technology submitted by Mr. Sahil Sarode, Ms Shruti Dongre, Ritesh Meshram & Aniket Bhoyar to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried by them under my supervision. The contents of Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.



Prof. Jolly Nikhade
Project Guide
Dept. Of CSE - IT

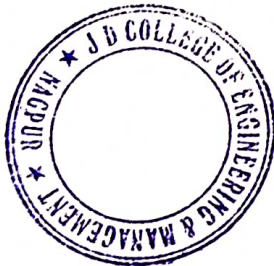
Forwarded to :



Prof. Bhagyashree Madan
Project Coordinator



Prof. M. M. Baig
Head of the Department IT



Dr. S. V. Sonekar
Principal
Principal

J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on "Implementation of Android Based Smart Wallet" is approved work done by

Sahil Sarode

Shruti Dongre

Ritesh Meshram

Aniket Bhoyar

In partial fulfillment of the requirements of the award of the degree of **Bachelor of Technology in Information Technology** at **J D College of Engineering & Management, Nagpur** affiliated to **Dr. Babasaheb Ambedkar Technological University, Lonere** during the academic year of 2021-22

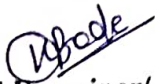


Prof. Jolly Nikhade
Project Guide



Prof. M.M. Baig
Head of Department

Project Examination held on _____



Internal Examiner/ Guide

External Examiner

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We would like to express a deep sense of gratitude and thanks profusely to our Guide **Prof. Jolly Nikhade**, Department of **Information Technology & Engineering**, J D College of Engineering & Management, Nagpur. Without her wise counsel and able guidance, it would have been impossible to complete the project in this manner. We would like to thank the member of Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of Information Technology & Engineering Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

*Sahil Sarode
Shruti Dongre
Ritesh Meshram
Aniket Bhoyar*

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ABBREVIATIONS

| | |
|--------------|--|
| IOT | Internet of Things |
| GSM | Global System of Mobile Communication |
| GPS | Global Positioning System |
| GPIO | General Purpose Input/output |
| API | Application Programming Interface |
| AI | Artificial Intelligence |
| IDE | Integrated Development Environment |
| AWS | Amazon Web Services |
| Wi-Fi | Wireless Fidelity |
| ADC | Analog to Digital Conversion |
| DAC | Digital to Analog Conversion |

ABSTRACT

Presently, Smart wallet is a recent interest in a market. Comparing this Smart wallet with regular wallet, which is available in the market, Smart wallet has several features. We all forget our wallet at community places or malls or hospitals. So by using this wallet we can control the disadvantages of the normal wallet, Click the pictures of the theft and many additional. The smart wallet can do all the things that the average wallet does, however it does carry other features like mobile charging, anti-theft protection, buzzer etc. The smart wallet is always expensive than the regular carrier, but it is habitually well-made and looks glamorous along with the extra tech incentive. So n this paper we propose a Smart wallet with extra features like notification to users, about for feature of our wallet and location of our wallet.



JAIDEV EDUCATION SOCIETY'S
J D COLLEGE OF ENGINEERING AND MANAGEMENT
KATOL ROAD, NAGPUR

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(An Autonomous Institute, with NAAC "A" Grade)

Affiliated to DBATU, RTMNU & MSBTE Mumbai

Department of Information Technology

"Progress Beyond Excellence"

2023-24 (Even Sem)



VISION

To be recognized as a centre of excellence in the field of Information Technology where inquisitive minds of students are fostered, leading to skilled professionals for satisfying the needs of society.

MISSION

1. Apply knowledge of engineering fundamentals and cutting-edge technology to identify and implement innovative solutions for engineering problems and issues in society at large.
2. Build strong interpersonal skills and will engage in life-long learning to enhance their career positions, both as team members and leaders.



Nagpur, Maharashtra, India
cognifyztechnologies@gmail.com
www.cognifyz.com

Date - 01/01/2024

INTERNSHIP OFFER LETTER

Dear AMITA HIWARKAR,
Ref. : CTI/A3/C845

Congratulations! We are pleased to inform you that you have been selected for the position of **Web development Intern** at Cognifyz Technologies. We were impressed by your qualifications, skills, and enthusiasm for web development, and we are excited to have you join our team.

As an intern, you will have the opportunity to work on various projects and tasks. As a Developer at our organization, your expertise in developing and integrating technologies will help us build scalable solutions that meet customer needs. Your proficiency in front-end and back-end development is crucial for creating seamless user experiences and ensuring stability. We believe that you will bring valuable insights and perspectives to our team, and we look forward to seeing you thrive and develop your skills during your internship.

We would like to take this opportunity to congratulate you once again and welcome you to Cognifyz Technologies. We look forward to working with you!

Best Regards,

Sudhakar Chaudhary
Cognifyz Technologies



Date - 01/01/2024

INTERNSHIP OFFER LETTER

Dear AMITA HIWARKAR,
Ref. : CTI/A3/C845

Congratulations! We are pleased to inform you that you have been selected for the position of **Web development Intern** at Cognifyz Technologies. We were impressed by your qualifications, skills, and enthusiasm for web development, and we are excited to have you join our team.

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We would like to take this opportunity to congratulate you once again and welcome you to Cognifyz Technologies. We look forward to working with you!

Best Regards,

Sushit Chaudhary

Cognifyz Technologies





Internship Offer Letter

To whom so ever concern

Ashvinkumar Raut

We are pleased to offer you an internship opportunity at YBI Foundation to enhance your skills with practical knowledge. As part of the internship you will be learning new skills, applying concepts for problem solving, working on real world problems and develop networking. This will helps you to enhance knowledge, practical exposure and get ready for the corporate world.

By accepting this internship offer, you agree to follow the terms and conditions of internship and perform all assigned tasks to the best of your ability. In case of any query please do contact us. All the Best!

Start Date: 30-12-23
Domain: AI and Data Science
Internship Period: 3 Months
JD college of engineering and management nagpur
56



Credential ID: JIQKFAXR131UM

verify at <https://www.ybifoundation.org/certificate-validation>

www.ybifoundation.org (+91) 9667987711 support@ybifoundation.org

OFFER LETTER

Intern ID: SM160157

Dear RUTIK DATTU BHASARKAR
J D COLLEGE OF ENGINEERING AND MANAGEMENT
NAGPUR

Congratulations!

We are delighted to present you with an offer for the position of Full Stack Web Development Internship commencing from January 10, 2024 to April 10, 2024.

As an intern, you will have the opportunity to gain valuable experience. As a temporary employee, please be aware that you won't receive the same benefits as our regular staff.

Kindly adhere to our company's policies, including those related to conduct, safety, and confidentiality. We have every confidence that your internship with us will prove to be fulfilling and we extend our best wishes for success in this promising opportunity.

We look forward to welcoming you to our team and witnessing your growth and contributions firsthand.

Please feel free to contact us if you have any questions or require further information.

Best regards,
CEO
Slash Mark



#startupindia

OFFER LETTER

Intern ID: SM160159

Dear Dhammadip Santosh Mendhe
JD COLLEGE OF ENGINEERING AND MANAGEMENT
NAGPUR

Congratulations!

We are delighted to present you with an offer for the position of Full Stack Web Development Internship commencing from January 10, 2024 to April 10, 2024.

As an intern, you will have the opportunity to gain valuable experience. As a temporary employee, please be aware that you won't receive the same benefits as our regular staff.

Kindly adhere to our company's policies, including those related to conduct, safety, and confidentiality. We have every confidence that your internship with us will prove to be fulfilling and we extend our best wishes for success in this promising opportunity.

We look forward to welcoming you to our team and witnessing your growth and contributions firsthand.
Please feel free to contact us if you have any questions or require further information.

Best regards,
CEO
Slash Mark



#startupindia

OFFER LETTER

Intern ID: SMI60080

Dear SAMYAK SUDHIKAR WAGHMARE
JD COLLEGE OF ENGINEERING AND MANAGEMENT
NAGPUR

Congratulations!

We are delighted to present you with an offer for the position of Java Internship commencing from January 10, 2024 to April 10, 2024.

As an intern, you will have the opportunity to gain valuable experience. As a temporary employee, please be aware that you won't receive the same benefits as our regular staff.

Kindly adhere to our company's policies, including those related to conduct, safety, and confidentiality. We have every confidence that your internship with us will prove to be fulfilling and we extend our best wishes for success in this promising opportunity.

We look forward to welcoming you to our team and witnessing your growth and contributions firsthand.

Please feel free to contact us if you have any questions or require further information.

Best regards,
CEO
Slash Mark



#startupindia

21,Public CoOp Society,
Atrey Layout, Pratap Nagar,
Nagpur, Maharashtra (440022)
EMAIL: info@cloudblitz.in

Date : Wednesday, 20 Dec 2023

Subject: DevOps Engineer Internship Offer Letter

Dear,

Ayush Vijay Paunekar

We would like to congratulate you on being selected for the "**DevOps Engineer(Intern)**" internship position with "**Cloudblitz**". We at **Cloudblitz** are excited that you will join our team.


The duration of the internship will be of **20 weeks**, starting from **14th December 2023 to 14th May2024**. The internship is an educational opportunity for you hence the primary focus is on learning and developing new skills and gaining hands-on knowledge. We believe that you will perform all your projects.

As an intern, we expect you to perform all assigned tasks to the best of your ability and follow any lawful and reasonable instructions provided to you.

We are confident that this internship will be a valuable experience for you, we look forward to working with you and helping you achieve your career goals.

Best of Luck!

Thank You!



Authorised Signatory
Shubham Kalsait

Date: 23-12-2023

CTI/A3/C191

INTERNSHIP OFFER LETTER

Dear **SUNNY MANDAL**,

Congratulations! We are pleased to inform you that you have been selected for the position of **Java Development** Intern at Cognifyz Technologies. We were impressed by your qualifications, skills, and enthusiasm for Java development, and we are excited to have you join our team.

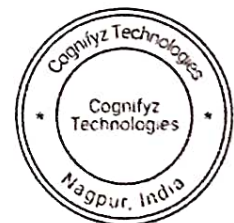
As a Java Development intern, you will have the opportunity to work on various projects and tasks, develop robust and scalable applications, and contribute to the design and implementation of software solutions. We believe that your programming skills and dedication to writing efficient code will make a significant impact on our organization's projects.

We would like to take this opportunity to congratulate you once again and welcome you to Cognifyz Technologies. We are confident that this internship will provide you with valuable hands-on experience and further enhance your skills in Java development.

Thank you,

Sukrit Chaudhary

Cognifyz Technologies



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महान, लघु व मध्यम उद्यम



www.cognifyz.com



Contact@cognifyz.com

OFFER LETTER

Intern ID: SMI59968

Dear AKASH HEMRAJ BITLE

J D College of Engineering and management, Nagpur

Congratulations!

We are delighted to present you with an offer for the position of Java Internship commencing from January 10, 2024 to April 10, 2024.

As an intern, you will have the opportunity to gain valuable experience. As a temporary employee, please be aware that you won't receive the same benefits as our regular staff.

Kindly adhere to our company's policies, including those related to conduct, safety, and confidentiality. We have every confidence that your internship with us will prove to be fulfilling and we extend our best wishes for success in this promising opportunity.

We look forward to welcoming you to our team and witnessing your growth and contributions firsthand.

Please feel free to contact us if you have any questions or require further information.

Best regards,

CEO

Slash Mark



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OFFER LETTER

Intern ID: SMI60033

Dear SAHIL GEDAM

JD COLLEGE OF ENGINEERING AND MANAGEMENT

Congratulations!

We are delighted to present you with an offer for the position of Cyber security Internship commencing from January 10, 2024 to April 10, 2024.

As an intern, you will have the opportunity to gain valuable experience. As a temporary employee, please be aware that you won't receive the same benefits as our regular staff.

Kindly adhere to our company's policies, including those related to conduct, safety, and confidentiality. We have every confidence that your internship with us will prove to be fulfilling and we extend our best wishes for success in this promising opportunity.

We look forward to welcoming you to our team and witnessing your growth and contributions firsthand.

Please feel free to contact us if you have any questions or require further information.

Best regards,
CEO
Slash Mark



#startupindia

14364000015032756

21-12-23



Internship Offer Letter

To whom so ever concern

PANKAJ RAUT

We are pleased to offer you an internship opportunity at YBI Foundation to enhance your skills with practical knowledge. As part of the internship you will be learning new skills, applying concepts for problem solving, working on real world problems and develop networking. This will helps you to enhance knowledge, practical exposure and get ready for the corporate world.

By accepting this internship offer, you agree to follow the terms and conditions of internship and perform all assigned tasks to the best of your ability. In case of any query please do contact us. All the Best!

Start Date: 21-12-23
Domain: Big Data and Cloud Computing
Internship Period: 2 Months
Jd college of engineering and management ,nagpur
BT200025IT



Credential ID: LIUISUAWGDG2M

verify at <https://www.ybifoundation.org/certificate-validation>

www.ybifoundation.org (+91) 9667987711 support@ybifoundation.org

OFFER LETTER

Intern ID: SMI59970

Dear ANKITA ASHOK DHENGE
J D COLLEGE OF ENGINEERING AND MANAGEMENT
NAGPUR

Congratulations!

We are delighted to present you with an offer for the position of Java Internship commencing from January 10, 2024 to April 10, 2024.

As an intern, you will have the opportunity to gain valuable experience. As a temporary employee, please be aware that you won't receive the same benefits as our regular staff.

Kindly adhere to our company's policies, including those related to conduct, safety, and confidentiality. We have every confidence that your internship with us will prove to be fulfilling and we extend our best wishes for success in this promising opportunity.

We look forward to welcoming you to our team and witnessing your growth and contributions firsthand.

Please feel free to contact us if you have any questions or require further information.

Best regards,
CEO
Slash Mark



#startupindia

To

Date: 15th December, 2023

Harshita Vijay Wasnik

Subject: Internship Offer Letter

Dear Harshita Vijay Wasnik

In reference to your application, we would like to congratulate you on being selected for an internship with the IntelliPaat Software Solutions Pvt. Ltd. Your work is scheduled to start on **22nd January, 2024** for a period of 6 months. During this period, you will get paid **Rs. 22,000/month** (Rupees Twenty-Two Thousand Only) and you will be working as a '**Business Development Trainee**'. The technical platform and job role will be shared with you by your manager on the day of your joining.

Note:

- Number of working days is 6 days a week.
- Your First month stipend(30days)will be on hold and it will be released along with your fourth month stipend.
- During this Internship, you are eligible to get up to **Rs 200,000/-** as an incentive based on your performance.
- During your internship, you are expected to be disciplined and sincere towards your job responsibility.
- Based on your performance, the Pre-Placement Offer will be released before the completion of your internship at IntelliPaat.
- The company reserves the right to pay or recover salary in lieu of the notice period (if applicable) or to relieve you before the expiry of the notice period. All payments and recoveries made under this clause will be based on Gross Salary
- You need to serve **30 days** of notice period without fail, or else the management of IntelliPaat can hold your salary/ experience letter / relieving letter/ any background verification in the future.
- Minimum working duration must be 9 hours including a one-hour lunch/dinner break.
- After the successful completion of 6 Months Internship period total CTC would be **Rs 7,25,000 INR**.
- No examination preparatory leaves will be provided during this period
- If the college/university exams are pending then you are allowed to take leaves for exams and for applying for the same you need to get the letter from your TPO with examination dates and get it approved by your manager.
- No leaves would be allowed during 1st month of your employment (allowed only if it is genuine). If you are taking leaves we would be requiring supporting and admissible documents for the same
- Failing to do the same organization can be liable to take action against your employment

Again, congratulations and we look forward to working with you.

Yours truly,

For IntelliPaat Software Solutions Private Limited



Bhargavi Narayan A S

Associate Vice President- Human Resources

IntelliPaat Software Solutions Pvt. Ltd.

**6th Floor, Primeco Towers, Arekere Gate Junction, Bannerghatta Main Road, Bengaluru,
Karnataka-560076**



OFFER LETTER

Intern ID: SMI59605

Dear LAXMIKANT GOPICHAND DHOLE
JD COLLEGE OF ENGINEERING AND MANAGEMENT
NAGPUR

Congratulations!

We are delighted to present you with an offer for the position of Java Internship commencing from December 15, 2023, to March 15, 2024.

As an intern, you will have the opportunity to gain valuable experience. As a temporary employee, please be aware that you won't receive the same benefits as our regular staff.

Kindly adhere to our company's policies, including those related to conduct, safety, and confidentiality. We have every confidence that your internship with us will prove to be fulfilling and we extend our best wishes for success in this promising opportunity.

We look forward to welcoming you to our team and witnessing your growth and contributions firsthand.

Please feel free to contact us if you have any questions or require further information.

Best regards,
CEO
Slash Mark



#startupindia



**MOTION
CUT**



MotionCut@outlook.com



Mahanagar, Lucknow



MotionCut.shop

14 December 2023

INTERNSHIP OFFER LETTER

Dear Amit Dnyaneshwar Chichmalkar

We are delighted to extend our warmest congratulations to you! We are pleased to offer you the esteemed position of **Python Programming Intern** at MotionCut. Your application has truly impressed us, and we firmly believe that your skills and qualifications perfectly align with our company's vision and goals.

Throughout your Internship period, you will be entrusted with various responsibilities and tasks, as assigned by the Manager-HR, to whom you will be reporting. As a representative of our brand, your work will be in line with the core objectives of our business. This internship will provide you with numerous opportunities to showcase your leadership and management capabilities, allowing you to make a significant impact.

Upon successful completion of the internship, you will be awarded a certificate in collaboration with the AICTE Internship Portal that acknowledges your exceptional achievements and active involvement, which will be based on your exemplary performance.

We are truly excited to welcome you to our team and offer you a platform to gain invaluable learning experiences. Your dedication and commitment to this internship will undoubtedly contribute to your professional growth.

Internship Details:

Position: Python Programming Internship

Start Date: 20 December , 2023

End Date: 20 January , 2024

Authorized Signatory





CODING RAJA TECHNOLOGIES
INTERNSHIP OFFER LETTER



Dear SAMIR RAMDAS BANTE

25/12/2023

We are excited to extend a warm welcome to you for the one-month internship with our organization. This program is being observed by **Coding Raja Technologies** as a valuable learning opportunity for you. During your **FULL STACK WEB DEVELOPMENT INTERNSHIP** you will be introduced to new concepts and will have the opportunity to learn new skills through hands-on application.

Our team is confident that you will take your responsibility seriously and perform all assigned tasks to the best of your ability. We will provide you with lawful and reasonable direction to help you succeed in this internship.

We are looking forward to a productive and enjoyable association with you, which will equip you for future projects. We wish you the best of luck in this one-month internship program, and hope that you have a truly meaningful experience.

Thank you for choosing to intern with us.

Sincerely,

Team Coding Raja Technologies

 www.codingraja.tech
 [@codingraja.tech](https://www.instagram.com/codingraja.tech)
 [@codingraja](https://twitter.com/codingraja)





OFFER LETTER

Intern ID: SMI60129

Dear SHOYEB SHEIKH

J D COLLEGE OF ENGINEERING AND MANAGEMENT

Congratulations!

We are delighted to present you with an offer for the position of Data Science Internship commencing from January 15, 2024 to April 15, 2024.

As an intern, you will have the opportunity to gain valuable experience. As a temporary employee, please be aware that you won't receive the same benefits as our regular staff.

Kindly adhere to our company's policies, including those related to conduct, safety, and confidentiality. We have every confidence that your internship with us will prove to be fulfilling and we extend our best wishes for success in this promising opportunity.

We look forward to welcoming you to our team and witnessing your growth and contributions firsthand.

Please feel free to contact us if you have any questions or require further information.

Best regards,
CEO
Slash Mark



#startupindia

RUSHIKA UMESH GAJBHIYE

Congratulations!

Dear RUSHIKA UMESH GAJBHIYE

We are both delighted and excited to welcome you to DevSkillHub Training and Consultancy as a Frontend Web Development Internship. At DevSkillHub, we firmly believe that our team is our greatest asset. We pride ourselves on collaborating with the brightest and most dedicated individuals. We are confident that your contributions will play a significant role in our continued growth and success. We look forward to an engaging, enriching, and productive internship period with you. Your association with us will be based on the terms and conditions delineated in Annexure A. Kindly review them and, upon agreement, sign and return a copy of this letter, indicating your acceptance.

Warm regards,

Vamshikrishna
www.devskillhub.com
+91 9182454921
info@devskillhub.com

SHREYA UMESH CHIMANKAR

Congratulations!

Dear SHREYA UMESH CHIMANKAR

We are both delighted and excited to welcome you to DevSkillHub Training and Consultancy as a Frontend Web Development Internship. At DevSkillHub, we firmly believe that our team is our greatest asset. We pride ourselves on collaborating with the brightest and most dedicated individuals. We are confident that your contributions will play a significant role in our continued growth and success. We look forward to an engaging, enriching, and productive internship period with you. Your association with us will be based on the terms and conditions delineated in Annexure A. Kindly review them and, upon agreement, sign and return a copy of this letter, indicating your acceptance.

Warm regards,

Vamshikrishna
www.devskillhub.com
+91 8123493951
info@devskillhub.com



Internship Offer Letter

To whom so ever concern

prajwal raut

We are pleased to offer you an internship opportunity at YBI Foundation to enhance your skills with practical knowledge. As part of the internship you will be learning new skills, applying concepts for problem solving, working on real world problems and develop networking. This will helps you to enhance knowledge, practical exposure and get ready for the corporate world.

By accepting this internship offer, you agree to follow the terms and conditions of internship and perform all assigned tasks to the best of your ability. In case of any query please do contact us. All the Best!

Start Date: 20-12-23

Domain: Big Data and Cloud Computing

Internship Period: 2 Months

JD College Of Engineering and Management nagpur
41



Credential ID: FTLUQ5LWHUR1J

verify at <https://www.ybifoundation.org/certificate-validation>

www.ybifoundation.org (+91) 9667987711 support@ybifoundation.org

14364000015049558

25-12-23



Internship Offer Letter

To whom so ever concern

Aditya Tiwari

We are pleased to offer you an internship opportunity at YBI Foundation to enhance your skills with practical knowledge. As part of the internship you will be learning new skills, applying concepts for problem solving, working on real world problems and develop networking. This will helps you to enhance knowledge, practical exposure and get ready for the corporate world.

By accepting this internship offer, you agree to follow the terms and conditions of internship and perform all assigned tasks to the best of your ability. In case of any query please do contact us. All the Best!

Start Date: 25-12-23

Domain: Big Data and Cloud Computing

Internship Period: 2 Months

J D College Of Engineering And MANAGEMENT
20



Credential ID: 10EYZ9FPPT0ZC

verify at <https://www.ybifoundation.org/certificate-validation>

www.ybifoundation.org (+91) 9667987711 support@ybifoundation.org

OFFER LETTER

Intern ID: SMI60083

Dear MAYUR BHASHKAR PADOLE
JD COLLEGE OF ENGINEERING AND MANAGEMENT
NAGPUR

Congratulations!

We are delighted to present you with an offer for the position of Data Science Internship commencing from January 15, 2024 to April 15, 2024.

As an intern, you will have the opportunity to gain valuable experience. As a temporary employee, please be aware that you won't receive the same benefits as our regular staff.

Kindly adhere to our company's policies, including those related to conduct, safety, and confidentiality. We have every confidence that your internship with us will prove to be fulfilling and we extend our best wishes for success in this promising opportunity.

We look forward to welcoming you to our team and witnessing your growth and contributions firsthand.

Please feel free to contact us if you have any questions or require further information.

Best regards,
CEO
Slash Mark



#startupindia

SUBODH GAJANAN RAIBOLE

Congratulations!

Dear SUBODH GAJANAN RAIBOLE

We are both delighted and excited to welcome you to DevSkillHub Training and Consultancy as a Python Intern. At DevSkillHub, we firmly believe that our team is our greatest asset. We pride ourselves on collaborating with the brightest and most dedicated individuals. We are confident that your contributions will play a significant role in our continued growth and success. We look forward to an engaging, enriching, and productive internship period with you. Your association with us will be based on the terms and conditions delineated in Annexure A. Kindly review them and, upon agreement, sign and return a copy of this letter, indicating your acceptance.

Warm regards,

Vamshikrishna
www.devskillhub.com
+91 8123493951
info@devskillhub.com



AD Infocom Systems

62, Bajrang Nagar, Manewada Road, Nagpur - 440027

Contact No.: 9860455757 Email: adinfocomsystems@gmail.com Website: www.adinfocomsystems.in

Ref. No. - ADIS/2023/225

Date - 19/12/2023

Internship Offer Letter

To,
Ekta Nighot
JD College of Engineering

Subject - Internship

Dear Ekta Nighot,

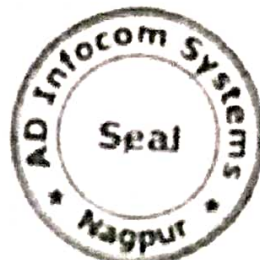
In reference to your registration we would like to congratulate you on being selected for internship in AD Infocom Systems. Your internship duration will be from 15/01/2024 to 15/03/2024. The topic of your internship is **"Python Programming"**.

You will undergo a learning curriculum as per the learning track assigned to you. The learning path will include in-depth sessions, hands on exercise and project work. The outcome during internship would be monitored through formal evaluations.

Again, congratulations and we look forward to working with you.

Thank you.

Prabhakar Dorge
Managing Director
AD Infocom Systems



INTERNSHIP OFFER LETTER

23-Dec-2023

Dear Poossan Gopikrishnan,

Congratulations! We are delighted to make you an offer as an intern in **Data Science Intern**.

This letter confirms your selection as **Data Science Intern** at A.N.D Intern and welcomes you from **25th-Dec 2023 to 15th-Feb-2024**.

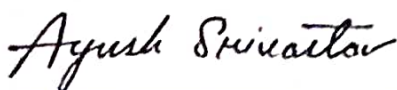
As an intern, you will have the opportunity to gain valuable experience.

At **A.N.D Intern** you will have an opportunity to explore and develop modern technologies that might completely change the way the companies we represent work. You will be part of a fresh active, diverse, smart, innovative team.

Working from home, you will report to the assigned lead. As an intern, you will work in the field of **Data Science**, applications in corresponding to requirements.

You will be onboarded upon the successful completion of the internship program and performance assessment.

We wish you all the very best for your future.



Ayush Srivastav
Founder & CEO
A.N.D Intern



Cognifyz

Where data meets intelligence

Date: 23-12-2023

CTI/A3/C189

INTERNSHIP OFFER LETTER

Dear **RUPALI GADE**,

Congratulations! We are pleased to inform you that you have been selected for the position of **Java Development** Intern at Cognifyz Technologies. We were impressed by your qualifications, skills, and enthusiasm for Java development, and we are excited to have you join our team.

As a Java Development intern, you will have the opportunity to work on various projects and tasks, develop robust and scalable applications, and contribute to the design and implementation of software solutions. We believe that your programming skills and dedication to writing efficient code will make a significant impact on our organization's projects.

We would like to take this opportunity to congratulate you once again and welcome you to Cognifyz Technologies. We are confident that this internship will provide you with valuable hands-on experience and further enhance your skills in Java development.

Thank you,

Sushit Chaudhary

Cognifyz Technologies



MSME
MICRO, SMALL & MEDIUM ENTERPRISES
समृद्धि, लघु एवं मध्यम उद्यम



www.cognifyz.com



Contact@cognifyz.com

AD Infocom Systems

62, Bajrang Nagar, Manewada Road, Nagpur – 440027

Contact No.: 9860455757 Email: adinfocomsystems@gmail.com Website: www.adinfocomsystems.in

Ref. No. - ADIS/2023/222

Date - 19/12/2023

Internship Offer Letter

To,
Eshwari Sunil Tandekar
JD College of Engineering and Management Nagpur

Subject – Internship

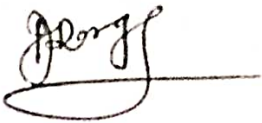
Dear Eshwari Sunil Tandekar,

In reference to your registration we would like to congratulate you on being selected for internship in AD Infocom Systems. Your internship duration will be from 15/01/2024 to 15/03/2024 The topic of your internship is “**Python Programming**”.

You will undergo a learning curriculum as per the learning track assigned to you. The learning path will include in-depth sessions, hands on exercise and project work. The outcome during internship would be monitored through formal evaluations.

Again, congratulations and we look forward to working with you.

Thank you.



Prabhakar Dorge
Managing Director
AD Infocom Systems





सूक्ष्म, लघु और मध्यम उद्यम मंत्रालय
MINISTRY OF
MICRO, SMALL & MEDIUM ENTERPRISES




Slash Mark

OFFER LETTER

Intern ID: SMI61014

Dear JOEL CRAIG

J D COLLEGE OF ENGINEERING AND MANAGEMENT

Congratulations!

We are delighted to present you with an offer for the position of Python Internship commencing from January 10, 2024 to April 10, 2024.

As an intern, you will have the opportunity to gain valuable experience. As a temporary employee, please be aware that you won't receive the same benefits as our regular staff.

Kindly adhere to our company's policies, including those related to conduct, safety, and confidentiality. We have every confidence that your internship with us will prove to be fulfilling and we extend our best wishes for success in this promising opportunity.

We look forward to welcoming you to our team and witnessing your growth and contributions firsthand.

Please feel free to contact us if you have any questions or require further information.

Shri Buddha Chandrasekhar
Chief Coordinating Officer(CCO)

AICTE

Shri K Mukesh Raj
Chief Executive Officer(CEO)

Slash Mark



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AD Infocom Systems

62, Bajrang Nagar, Manewada Road, Nagpur – 440027

Contact No.: 9860455757 Email: adinfocomsystems@gmail.com Website: www.adinfocomsystems.in

Ref. No. - ADIS/2023/317

Date - 30/12/2023

Internship Offer Letter

To,
Kajal Tejram Waghmare
JD College of Engineering and Management
Nagpur

Subject – Internship

Dear Kajal Tejram Waghmare,

In reference to your registration we would like to congratulate you on being selected for internship in AD Infocom Systems. Your internship duration will be from 01/01/2024 to 01/03/2024. The topic of your internship is “Web Development”.

You will undergo a learning curriculum as per the learning track assigned to you. The learning path will include in-depth sessions, hands on exercise and project work. The outcome during internship would be monitored through formal evaluations.

Again, congratulations and we look forward to working with you.

Thank you.

Prabhakar Dorge
Managing Director
AD Infocom Systems





Where data meets intelligence

Date: 23-12-2023

CTI/A3/C141

INTERNSHIP OFFER LETTER

Dear **POOJA GODBOLE**,

Congratulations! We are pleased to inform you that you have been selected for the position of **web development** Intern at Cognifyz Technologies. We were impressed by your qualifications, skills, and enthusiasm for web development, and we are excited to have you join our team.

As an intern, you will have the opportunity to work on various projects and tasks, As a Developer at our organization, your expertise in developing and integrating technologies will help us build scalable solutions that meet customer needs. Your proficiency in front-end and back-end development is crucial for creating seamless user experiences and ensuring stability. We believe that you will bring valuable insights and perspectives to our team, and we look forward to seeing you thrive and develop your skills during your internship.

We would like to take this opportunity to congratulate you once again and welcome you to Cognifyz Technologies. We look forward to working with you!

Regards,

Sushant Chaudhary

Cognifyz Technologies



MSME
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सूक्ष्म, लघु एवं मध्यम उद्यम



www.cognifyz.com



Contact@cognifyz.com

OFFER LETTER

Intern ID: SMI60140

Dear SWARAJ DINDAYAL BADOLE

JD College of Engineering and Management Nagpur

Congratulations!

We are delighted to present you with an offer for the position of Full Stack Web Development Internship commencing from January 10, 2024 to April 10, 2024.

As an intern, you will have the opportunity to gain valuable experience. As a temporary employee, please be aware that you won't receive the same benefits as our regular staff.

Kindly adhere to our company's policies, including those related to conduct, safety, and confidentiality. We have every confidence that your internship with us will prove to be fulfilling and we extend our best wishes for success in this promising opportunity.

We look forward to welcoming you to our team and witnessing your growth and contributions firsthand. Please feel free to contact us if you have any questions or require further information.

Best regards,
CEO
Slash Mark



#startupindia



Mallikarjuna Infosys

B. Mahesh
Director

Date: 26/12/2023

To,

Avantika Dnyaneshwar Paidalwar,

AICTE Internship ID: STU6179404f9bb531635336271

JD COLLEGE OF ENGINEERING AND MANAGEMENT.

INTERNSHIP OFFER LETTER

Following your application and subsequence interview, we are pleased to inform you that you have been considered as an **INTERN** in our Organization for **DATASCIENCE INTERNSHIP**.

It is our hope that you will work with us to improve the efficiency and performance of the Organization. We look forward to working with you. Congratulations and best wishes.

START DATE: 15/01/2024

ROLE : Python Developer

DURATION : 16 Weeks

Yours Faithfully

Name: K. Pavan Kumar

Designation: Manager

Mallikarjuna Infosys.





OFFER LETTER

Intern ID: SMI59970

Dear ANKITA ASHOK DHENG

J D COLLEGE OF ENGINEERING AND MANAGEMENT
NAGPUR

Congratulations!

We are delighted to present you with an offer for the position of Java Internship commencing from January 10, 2024 to April 10, 2024.

As an intern, you will have the opportunity to gain valuable experience. As a temporary employee, please be aware that you won't receive the same benefits as our regular staff.

Kindly adhere to our company's policies, including those related to conduct, safety, and confidentiality. We have every confidence that your internship with us will prove to be fulfilling and we extend our best wishes for success in this promising opportunity.

We look forward to welcoming you to our team and witnessing your growth and contributions firsthand.

Please feel free to contact us if you have any questions or require further information.

Best regards,
CEO
Slash Mark



#startupindia

OFFER LETTER

Intern ID: SMI59974

Dear SHIVAM RAVINDRA BUTLE
J D COLLEGE OF ENGINEERING AND MANAGEMENT

Congratulations!

We are delighted to present you with an offer for the position of Java Internship commencing from January 10, 2024 to April 10, 2024.

As an intern, you will have the opportunity to gain valuable experience. As a temporary employee, please be aware that you won't receive the same benefits as our regular staff.

Kindly adhere to our company's policies, including those related to conduct, safety, and confidentiality. We have every confidence that your internship with us will prove to be fulfilling and we extend our best wishes for success in this promising opportunity.

We look forward to welcoming you to our team and witnessing your growth and contributions firsthand.

Please feel free to contact us if you have any questions or require further information.

Best regards,
CEO
Slash Mark



#startupindia





OFFER LETTER

Intern ID: SMI60380

Dear GUNJAN TAMBEKAR

J D COLLEGE OF ENGINEERING AND MANAGEMENT
NAGPUR

Congratulations!

We are delighted to present you with an offer for the position of Full Stack Web Development Internship commencing from January 10, 2024 to April 10, 2024.

As an intern, you will have the opportunity to gain valuable experience. As a temporary employee, please be aware that you won't receive the same benefits as our regular staff.

Kindly adhere to our company's policies, including those related to conduct, safety, and confidentiality. We have every confidence that your internship with us will prove to be fulfilling and we extend our best wishes for success in this promising opportunity.

We look forward to welcoming you to our team and witnessing your growth and contributions firsthand.

Please feel free to contact us if you have any questions or require further information.

Best regards,
CEO
Slash Mark



#startupindia



OFFER LETTER

Intern ID: SMI59966

Dear GANESH KARTIK RAHANGDALE
J D College Of Engineering And Management Nagpur

Congratulations!

We are delighted to present you with an offer for the position of Java Internship commencing from January 10, 2024 to April 10, 2024.

As an intern, you will have the opportunity to gain valuable experience. As a temporary employee, please be aware that you won't receive the same benefits as our regular staff.

Kindly adhere to our company's policies, including those related to conduct, safety, and confidentiality. We have every confidence that your internship with us will prove to be fulfilling and we extend our best wishes for success in this promising opportunity.

We look forward to welcoming you to our team and witnessing your growth and contributions firsthand.

Please feel free to contact us if you have any questions or require further information.

Best regards,
CEO
Slash Mark



#startupindia

21, Public CoOp Society,
Atrey Layout, Pratap Nagar,
Nagpur, Maharashtra (440022)
EMAIL: info@cloudblitz.in

Date : Wednesday, 20 Dec 2023

Subject: DevOps Engineer Internship Offer Letter

Dear,

Ayush Vijay Paunikar

We would like to congratulate you on being selected for the "**DevOps Engineer(Intern)**" internship position with "**Cloudblitz**". We at **Cloudblitz** are excited that you will join our team.

The duration of the internship will be of **20 weeks**, starting from **14th December 2023 to 14th May 2024**. The internship is an educational opportunity for you hence the primary focus is on learning and developing new skills and gaining hands-on knowledge. We believe that you will perform all your projects.

As an intern, we expect you to perform all assigned tasks to the best of your ability and follow any lawful and reasonable instructions provided to you.

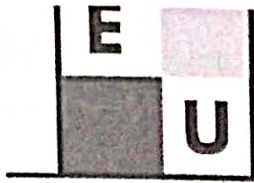
We are confident that this internship will be a valuable experience for you, we look forward to working with you and helping you achieve your career goals.

Best of Luck!

Thank You!



Authorised Signatory
Shubham Kalsait



**PHOENIX
SOLUTIONS**
LET'S SHINE TOGETHER



APPROVED

INTERNSHIP OFFER LETTER

No.18/3,2nd floor,1st Main, opp:108 B
Bus Terminus,Ganganagar
Bengaluru 560032

eduphoenixsolutions@gmail.com

Date:28-12-2023

Dear **Aradhana Gupta,**

No: JBTECH20166 / JD College of engineering and management ,Nagpur

We are pleased to inform you that your engagement as a intern in the field of **Data Science** at our organization Eduphoenix Pvt.Ltd, has been approved. The terms of your internship with the company will be as follows:

1. You will work as an intern in the field of **Data Science** .
2. Internship period will be from - **28th December 2023 to 28th Feburary 2024**.
3. Your performance will be evaluated on a regular periodic basis during your internship to become a 'Management Trainee'.
4. You will abide by the Code of Conduct and Ethics as prescribed by the company.
- 5.Internship and training program will be conducted in online mode.

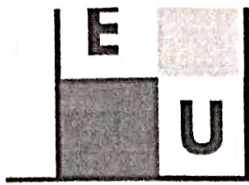
We look forward to working with you.

Please do not hesitate to contact 9886473833 any time during office hours from 10.30 a.m. to 8.30 p.m. regarding your internship and other queries.

Thank You

Regards,

Garvit Garg
Chief Executive Officer &
Managing Director
Eduphoenix Private Limited



PHOENIX
SOLUTIONS

LET'S SHINE TOGETHER



APPROVED

INTERNSHIP OFFER LETTER

No.18/3,2nd floor,1st Main, opp:108 B
Bus Terminus,Ganganagar
Bengaluru 560032

eduphoenixsolutions@gmail.com

Date:28-12-2023

Dear **Tarunya Vairagade**,

No: JBTECH20189 / JD College of engineering and management ,Nagpur

We are pleased to inform you that your engagement as a intern in the field of **Digital Marketing** at our organization Eduphoenix Pvt.Ltd, has been approved. The terms of your internship with the company will be as follows:

1. You will work as an intern in the field of **Digital Marketing**.
2. Internship period will be from - **28th December 2023 to 28th February 2024**.
3. Your performance will be evaluated on a regular periodic basis during your internship to become a 'Management Trainee'.
4. You will abide by the Code of Conduct and Ethics as prescribed by the company.
5. Internship and training program will be conducted in online mode.

We look forward to working with you.

Please do not hesitate to contact 9886473833 any time during office hours from 10.30 a.m. to 8.30 p.m. regarding your internship and other queries.

Thank You

Regards,

Garvit Garg

Garvit Garg
Chief Executive Officer &
Managing Director
Eduphoenix Private Limited



VaultofCodes

INTERNSHIP OFFER LETTER

Dear Sumit Rajesh wakde

Congratulations! We are happy to offer you the position of Web Development Intern at Vaultofcodes.com. We were impressed with your application and believe that your skills and qualifications align perfectly with our company's goals and vision.

During your Internship period, you must perform all duties and activities as assigned by the Manager-HR to whom you will report. You will be representing our brand and working in accordance with the goal of the business. You will be given numerous opportunities to demonstrate your leadership and management abilities. At the end of the term, you will receive a certificate describing your achievements and active participation based on your performance & a letter of recommendation.

Internship Details:

Position: Web Development Intern

Location: Online/Remote

Start Date: 05/01/24

End Date: 05/02/24

If you have any questions or require further information, please do not hesitate to contact us at vaultofcodes@gmail.com. We are excited to welcome you to our team and provide you with valuable learning opportunities.

Authorized Signatory
Vaultofcodes.in



National Career Service



MSME



VaultofCodes

INTERNSHIP OFFER LETTER

Dear PRAJYOT ARVIND JADHAO

Congratulations! We are happy to offer you the position of Java Programming Intern at Vaultofcodes.com. We were impressed with your application and believe that your skills and qualifications align perfectly with our company's goals and vision.

During your Internship period, you must perform all duties and activities as assigned by the Manager-HR to whom you will report. You will be representing our brand and working in accordance with the goal of the business. You will be given numerous opportunities to demonstrate your leadership and management abilities. At the end of the term, you will receive a certificate describing your achievements and active participation based on your performance & a letter of recommendation.

Internship Details:

Position: Java Programming Intern

Location: Online/Remote

Start Date: 05/01/24

End Date: 05/02/24

If you have any questions or require further information, please do not hesitate to contact us at vaultofcodes@gmail.com. We are excited to welcome you to our team and provide you with valuable learning opportunities.

Authorized Signatory
Vaultofcodes.in



National Career Service



MSME



VaultofCodes

INTERNSHIP OFFER LETTER

Dear KANISHKA PRADEEP MANKAR

Congratulations! We are happy to offer you the position of Python Programming Intern at Vaultofcodes.com. We were impressed with your application and believe that your skills and qualifications align perfectly with our company's goals and vision.

During your Internship period, you must perform all duties and activities as assigned by the Manager-HR to whom you will report. You will be representing our brand and working in accordance with the goal of the business. You will be given numerous opportunities to demonstrate your leadership and management abilities. At the end of the term, you will receive a certificate describing your achievements and active participation based on your performance & a letter of recommendation.

Internship Details:

Position: Python Programming Intern

Location: Online/Remote

Start Date: 05/01/24

End Date: 05/02/24

If you have any questions or require further information, please do not hesitate to contact us at vaultofcodes@gmail.com. We are excited to welcome you to our team and provide you with valuable learning opportunities.

Authorized Signatory
Vaultofcodes.in



National Career Service



MSDE

Cognifyz

Where data meets intelligence

Date: 23-12-2023

CTI/A3/C191

INTERNSHIP OFFER LETTER

Dear **SUNNY MANDAL**,

Congratulations! We are pleased to inform you that you have been selected for the position of **Java Development** Intern at Cognifyz Technologies. We were impressed by your qualifications, skills, and enthusiasm for Java development, and we are excited to have you join our team.

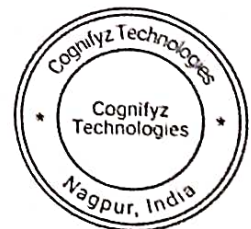
As a Java Development intern, you will have the opportunity to work on various projects and tasks, develop robust and scalable applications, and contribute to the design and implementation of software solutions. We believe that your programming skills and dedication to writing efficient code will make a significant impact on our organization's projects.

We would like to take this opportunity to congratulate you once again and welcome you to Cognifyz Technologies. We are confident that this internship will provide you with valuable hands-on experience and further enhance your skills in Java development.

Thank you,

Sushit Chaudhary

Cognifyz Technologies



MSME
MICRO, SMALL & MEDIUM ENTERPRISES
सूक्ष्म, लघु एवं मध्यम उद्यम



www.cognifyz.com



Contact@cognifyz.com



Internship Offer Letter

To whom so ever concern

Krushna Kathale

We are pleased to offer you an internship opportunity at YBI Foundation to enhance your skills with practical knowledge. As part of the internship you will be learning new skills, applying concepts for problem solving, working on real world problems and develop networking. This will helps you to enhance knowledge, practical exposure and get ready for the corporate world.

By accepting this internship offer, you agree to follow the terms and conditions of internship and perform all assigned tasks to the best of your ability. In case of any query please do contact us. All the Best!

Start Date: 22-12-23

Domain: Big Data and Cloud Computing

Internship Period: 2 Months

J D College of Engineering and Management

11



Credential ID: ZS8HD1UX0NMAJ

verify at <https://www.ybifoundation.org/certificate-validation>

www.ybifoundation.org (+91) 9667987711 support@ybifoundation.org

14364000014981172

01/01/2024



Internship Offer Letter

To whom so ever concern

Ybi Foundation
Trupti Badole

We are pleased to offer you an internship opportunity at YBI Foundation to enhance your skills with practical knowledge. As part of the internship you will be learning new skills, applying concepts for problem solving, working on real world problems and develop networking. This will helps you to enhance knowledge, practical exposure and get ready for the corporate world.

By accepting this internship offer, you agree to follow the terms and conditions of internship and perform all assigned tasks to the best of your ability. In case of any query please do contact us. All the Best!

Start Date: 01/01/2024
Domain: AI and Data Science
Internship Period: 3 Months
JD College of engineering and management Nagpur
BT200020IT



Credential ID: HM05UOQNVYABO

verify at <https://www.ybifoundation.org/certificate-validation>

www.ybifoundation.org (+91) 9667987711 support@ybifoundation.org



CODE CASA

Sonipat, Haryana, India

Dear Suhani Sahare

Date: 19 December 2023

Congratulations on your selection as a Web Developer.

We are delighted to offer you the position of Web Developer, effective from 01/01/2024 to 30/03/2024. We hope you are excited about this opportunity.

At Code Casa, we view this internship as a valuable learning experience for you. During your internship, you will undergo orientation and focus on acquiring new skills while gaining a deeper understanding of concepts through practical application.

This Internship is observed by Code Casa as being a learning opportunity for you. your commitment to carrying out assigned tasks to the best of your ability under lawful and reasonable guidance is appreciated. We anticipate a productive and mutually beneficial association that will prepare you for future projects. We wish you a fulfilling and meaningful internship experience.

Sincerely,

Vinay P.

Vinay P
Human Resource Department
Code Casa



✉ hr.codecasa@gmail.com

☎ +91 8698289567

🌐 www.codecasa.in

OFFER LETTER

Intern ID: SMI60305

Dear ATHARVA KALE

JD College of Engineering and Management

Congratulations!

We are delighted to present you with an offer for the position of Full Stack Web Development Internship commencing from January 10, 2024 to April 10, 2024.

As an intern, you will have the opportunity to gain valuable experience. As a temporary employee, please be aware that you won't receive the same benefits as our regular staff.

Kindly adhere to our company's policies, including those related to conduct, safety, and confidentiality. We have every confidence that your internship with us will prove to be fulfilling and we extend our best wishes for success in this promising opportunity.

We look forward to welcoming you to our team and witnessing your growth and contributions firsthand.

Please feel free to contact us if you have any questions or require further information.

Best regards,
CEO
Slash Mark



#startupindia



VaultofCodes

INTERNSHIP OFFER LETTER

Dear Atharva Tryambak
Kale

Congratulations! We are happy to offer you the position of Java Programming Intern at Vaultofcodes.com. We were impressed with your application and believe that your skills and qualifications align perfectly with our company's goals and vision.

During your Internship period, you must perform all duties and activities as assigned by the Manager-HR to whom you will report. You will be representing our brand and working in accordance with the goal of the business. You will be given numerous opportunities to demonstrate your leadership and management abilities. At the end of the term, you will receive a certificate describing your achievements and active participation based on your performance & a letter of recommendation.

Internship Details:

Position: Java Programming Intern

Location: Online/Remote

Start Date: 05/01/24

End Date: 05/02/24

If you have any questions or require further information, please do not hesitate to contact us at vaultofcodes@gmail.com. We are excited to welcome you to our team and provide you with valuable learning opportunities.

Authorized Signatory
Vaultofcodes.in



National Career Service



MSME



OFFER LETTER

Intern ID: SMI60033

Dear SAHIL GEDAM

JD COLLEGE OF ENGINEERING AND MANAGEMENT

Congratulations!

We are delighted to present you with an offer for the position of Cyber security Internship commencing from January 10, 2024 to April 10, 2024.

As an intern, you will have the opportunity to gain valuable experience. As a temporary employee, please be aware that you won't receive the same benefits as our regular staff.

Kindly adhere to our company's policies, including those related to conduct, safety, and confidentiality. We have every confidence that your internship with us will prove to be fulfilling and we extend our best wishes for success in this promising opportunity.

We look forward to welcoming you to our team and witnessing your growth and contributions firsthand.

Please feel free to contact us if you have any questions or require further information.

Best regards,
CEO
Slash Mark



#startupindia



OFFER LETTER

Intern ID: SMI60077

Dear NISHANT GAIKWAD

JD COLLEGE OF ENGINEERING AND MANAGEMENT
NAGPUR

Congratulations!

We are delighted to present you with an offer for the position of Data Science Internship commencing from January 10, 2024 to April 10, 2024.

As an intern, you will have the opportunity to gain valuable experience. As a temporary employee, please be aware that you won't receive the same benefits as our regular staff.

Kindly adhere to our company's policies, including those related to conduct, safety, and confidentiality. We have every confidence that your internship with us will prove to be fulfilling and we extend our best wishes for success in this promising opportunity.

We look forward to welcoming you to our team and witnessing your growth and contributions firsthand.

Please feel free to contact us if you have any questions or require further information.

Best regards,
CEO
Slash Mark



#startupindia

14364000015022794

21-12-23



Internship Offer Letter

To whom so ever concern

Ayush Paliwal

We are pleased to offer you an internship opportunity at YBI Foundation to enhance your skills with practical knowledge. As part of the internship you will be learning new skills, applying concepts for problem solving, working on real world problems and develop networking. This will helps you to enhance knowledge, practical exposure and get ready for the corporate world.

By accepting this internship offer, you agree to follow the terms and conditions of internship and perform all assigned tasks to the best of your ability. In case of any query please do contact us. All the Best!

Start Date: 21-12-23

Domain: Big Data and Cloud Computing

Internship Period: 2 Months

Jd college of engineering and management,nagpur
BT200025IT



Credential ID: 8UJ7R9TEVLSZX

verify at <https://www.ybifoundation.org/certificate-validation>

www.ybifoundation.org (+91) 9667987711 support@ybifoundation.org



+919182454921 📞
info@devskillhub.com 📧
www.devskillhub.com 🌐

PRAJAKTA RAVINDRA HORE

Congratulations!

Dear PRAJAKTA RAVINDRA HORE

We are both delighted and excited to welcome you to DevSkillHub Training and Consultancy as a Python Intern. At DevSkillHub, we firmly believe that our team is our greatest asset. We pride ourselves on collaborating with the brightest and most dedicated individuals. We are confident that your contributions will play a significant role in our continued growth and success. We look forward to an engaging, enriching, and productive internship period with you. Your association with us will be based on the terms and conditions delineated in Annexure A. Kindly review them and, upon agreement, sign and return a copy of this letter, indicating your acceptance.

Warm regards,

Vamshikrishna
www.devskillhub.com
+91 8123493951
info@devskillhub.com



INTERNSHIP OFFER LETTER

Date: 20th December, 2023

Dear Dishant Kohad,

Congratulations on joining our **WordPress Internship**. An exciting learning experience awaits you. We believe that this internship will help you in learning & developing new skills.

Joining Date: 10th January, 2024

Internship Duration: 3 Months

Stipend: No stipend will be offered for this position.

Rabina Rana

Rabina Rana
Internship Coordinator

www.internshipstudio.com

12A Gopal Nivas, R NO. 69/1 Kapileshwar Nagar, Maliwada, Ahmednagar MH 414001 IN

INTERNSHIP OFFER LETTER

Date: 1st January, 2024

Dear Dishant Kohad,

Congratulations on joining our **Website Design and Development Internship**. An exciting learning experience awaits you. We believe that this internship will help you in learning & developing new skills.

Joining Date: 1st February, 2024

Internship Duration: 3 Months

Stipend: No stipend will be offered for this position.

Rabina Rana

Rabina Rana
Internship Coordinator



VaultofCodes

INTERNSHIP OFFER LETTER

Dear DISHANT KHUSHAL KOHAD

Congratulations! We are happy to offer you the position of Web Development Intern at Vaultofcodes.com. We were impressed with your application and believe that your skills and qualifications align perfectly with our company's goals and vision.

During your Internship period, you must perform all duties and activities as assigned by the Manager-HR to whom you will report. You will be representing our brand and working in accordance with the goal of the business. You will be given numerous opportunities to demonstrate your leadership and management abilities. At the end of the term, you will receive a certificate describing your achievements and active participation based on your performance & a letter of recommendation.

Internship Details:

Position: Web Development Intern

Location: Online/Remote

Start Date: 05/01/24

End Date: 05/02/24

If you have any questions or require further information, please do not hesitate to contact us at vaultofcodes@gmail.com. We are excited to welcome you to our team and provide you with valuable learning opportunities.

Authorized Signatory
Vaultofcodes.in



National Career Service



MSME



OFFER LETTER

Intern ID: SMI59706

Dear GAURI JIDDEWAR

JAIDEV EDUCATION SOCIETY COLLEGE OF
ENGINEERING AND MANAGEMENT, NAGPUR

Congratulations!

We are delighted to present you with an offer for the position of Python Internship commencing from January 10, 2024 to April 10, 2024.

As an intern, you will have the opportunity to gain valuable experience. As a temporary employee, please be aware that you won't receive the same benefits as our regular staff.

Kindly adhere to our company's policies, including those related to conduct, safety, and confidentiality. We have every confidence that your internship with us will prove to be fulfilling and we extend our best wishes for success in this promising opportunity.

We look forward to welcoming you to our team and witnessing your growth and contributions firsthand. Please feel free to contact us if you have any questions or require further information.

Best regards,
CEO
Slash Mark



#startupindia

CONFIRMATION OF INTERNSHIP

This is an agreement among **Sachi Motghare** ("Intern"), and **APPXBUILD TECHNOLOGIES PRIVATE LIMITED** ("Company"). The purpose of this educational internship is for Intern to learn about Company's business and to gain valuable insight and experience.

The term of this internship begins on 8-Dec-2023 and ends 8-June-2024

Conditions of the Agreement:

- The internship is related to an educational purpose and there is no guarantee or expectation that the activity will result in employment with the Company.
- The education received by the Intern from the internship is for the express benefit of the Intern.
- The Intern does not replace or displace any employee of the Company.
- The Intern will receive direct and close supervision by an appropriate supervisor.
- The Company does not derive an immediate advantage from the activities performed by the Intern.
- Intern is not entitled to wages or any compensation or benefits for the time spent in the internship.
- Company is not liable for injury sustained or health conditions that may arise for the unpaid intern during the course of the internship.

The Intern specifically agrees to and acknowledges the following:

- This internship is educational in nature and there is no guarantee or expectation



Plot no 10/4 1st floor, STPI IT Park, Gayatri Nagar Nagpur- 440022 (MH)

Mobile: 9860677800 , Email: support@appxbuild.com

Website: www.appxbuild.com

CIN : U72900MH2016PTC286120



CONFIRMATION OF INTERNSHIP

This is an agreement among Aditi Andekar ("Intern"), and APPXBUILD TECHNOLOGIES PRIVATE LIMITED ("Company"). The purpose of this educational internship is for Intern to learn about Company's business and to gain valuable insight and experience.

The term of this internship begins on 8-Dec-2023 and ends 8-June-2024

Conditions of the Agreement:

- The internship is related to an educational purpose and there is no guarantee or expectation that the activity will result in employment with the Company.
- The education received by the Intern from the internship is for the express benefit of the Intern.
- The Intern does not replace or displace any employee of the Company.
- The Intern will receive direct and close supervision by an appropriate supervisor.
- The Company does not derive an immediate advantage from the activities performed by the Intern.
- Intern is not entitled to wages or any compensation or benefits for the time spent in the internship.
- Company is not liable for injury sustained or health conditions that may arise for the unpaid intern during the course of the internship.

The Intern specifically agrees to and acknowledges the following:

- This internship is educational in nature and there is no guarantee or expectation



Plot no 10/4 1st floor, STPI IT Park, Gayatri Nagar Nagpur- 440022 (MH)

Mobile: 9860677800 , Email: support@appxbuild.com

Website: www.appxbuild.com

CIN : U72900MH2016PTC286120



CODE CASA

Sonipat, Haryana, India

Dear Mr.Yash Samarth

Date: 19 December 2024

Congratulations on your selection as a Web Developer.

We are delighted to offer you the position of Web Developer, effective from 01/01/2024 to 30/03/2024. We hope you are excited about this opportunity.

At Code Casa, we view this internship as a valuable learning experience for you. During your internship, you will undergo orientation and focus on acquiring new skills while gaining a deeper understanding of concepts through practical application.

This Internship is observed by Code Casa as being a learning opportunity for you. your commitment to carrying out assigned tasks to the best of your ability under lawful and reasonable guidance is appreciated. We anticipate a productive and mutually beneficial association that will prepare you for future projects. We wish you a fulfilling and meaningful internship experience.

Sincerely,

Vinay P.

Vinay P
Human Resource Department
Code Casa



✉ hr.codecasa@gmail.com

☎ +91 8698289567

🌐 www.codecasa.in



CODE CASA

Sonipat, Haryana, India

Dear Mr.Mohit Jodhe

Date: 20 December 2024

Congratulations on your selection as a Java Developer.

We are delighted to offer you the position of Java Developer, effective from 01/01/2024 to 30/03/2024. We hope you are excited about this opportunity.

At Code Casa, we view this internship as a valuable learning experience for you. During your internship, you will undergo orientation and focus on acquiring new skills while gaining a deeper understanding of concepts through practical application.

This Internship is observed by Code Casa as being a learning opportunity for you. your commitment to carrying out assigned tasks to the best of your ability under lawful and reasonable guidance is appreciated. We anticipate a productive and mutually beneficial association that will prepare you for future projects. We wish you a fulfilling and meaningful internship experience.

Sincerely,

Vinay P.

Vinay P
Human Resource Department
Code Casa



✉ hr.codecasa@gmail.com

☎ +91 8698289567

🌐 www.codecasa.in

Private and Confidential

Date: September 21, 2023

Internship Appointment Letter

BizTranSights
11th Floor
Mandana Road,
East Band Chawl,
Vishwa Bhava Nagar,
Nagpur - 440015

We are pleased to offer you an **Internship** as a '**Data Science Intern**' at our organization, "**BizTranSights Solutions, LLP.**" This letter serves as an official confirmation of your selection for the Internship Program for the period of **21/09/2023 to 21/02/2024**. We believe that this internship opportunity will provide you with valuable hands-on experience and enable you to grow both personally and professionally.

Details of the Internship:

- Internship: Data Science Intern
- Internship Start Date: 21st September 2023
- Internship End Date: 21st February 2024
- Working Time: 01:00PM to 12:00PM
- Location: BizTranSights Solutions Office

During your internship, you will abide by the following terms and conditions listed below:

1. **Confidentiality and Intellectual Property:** During your internship, you will have access to confidential information and intellectual property belonging to the company. We expect you to uphold the highest standards of confidentiality and always protect the company's proprietary information. You will strictly abide by the terms and conditions of the Non-Disclosure Agreement.
2. **Code of Conduct and Policies:** As an intern at BizTranSights Solutions, you are required to abide by all company policies and adhere to the company's Code of Conduct guidelines. Please review the employee policies provided to you with detailed information.
3. **Duties and Responsibilities:** Tasks will be assigned to you periodically, and it is your responsibility to meet the given deadlines and complete them with the expected standard. You may also need to take part in the company initiatives. The company may entrust you with new responsibilities and duties as it thinks fit from time to time.

4. **Supervision and Mentorship:** You will be working under the guidance and supervision of Mr. Abhijeet Raghuwanshi and Mr. Aditya Kale who will be your mentors during the internship. They will provide you with necessary instructions, feedback, and support throughout your internship.
5. **Internship Evaluation:** At the end of your internship, you will receive an evaluation of your performance. This evaluation will be based on various factors, including your skills, work ethic, teamwork, and overall contribution to the company.
6. **Stipend and Compensation:** You will receive a stipend of Rupees Twelve Thousand per month (Rs. 12,000/- per month). If you need to avail any time off, it will be considered as Loss of Pay (LWP) and will be deducted from your monthly stipend.

The above terms and conditions are based on the company's policy, procedures and other rules currently applicable in India and are subject to amendments and adjustments from time to time. In all matters, including those not specifically covered here, you will be governed by the rules of the company as shall be in force from time to time.

Kindly confirm your acceptance of this internship offer by signing and returning a copy of this letter by 21/09/2023.

We hope that your internship at BizTranSights Solutions will be a rewarding experience. We look forward to working with you and wish you a successful internship journey!

For BizTranSights Solutions LLP

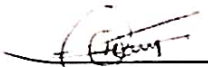


Shilpa Dikey

Senior Executive – Human Resource

Acceptance by Intern

I have read and understood the above Internship terms & conditions. I agree and accept the above appointment.

 (Signature)

Name: Pragati D. Walgaonkar

Date: 21/09/23

Ref No. : OSPL/LOI/23-24/0178

Date: 20th December 2023

To,
Gunjan Bawankule

Subject: Letter of Intent

We, at Oakland-System Pvt. Ltd. Nagpur, are pleased to offer you an opportunity to work with us. You are driven to make great things happen with positivity & we are glad to have found you. We have a lot in common. Come on, let's change the world!

It's your chance, your future and your responsibility to make the world a better place to live and work. We hope you are ready for it!

We take an uncompromising stance on human rights in our operations and work to influence others to do the same. Our vision is for a sustainable supply chain, with empowered partners that own and prioritize the well-being of the people, communities and environment around them.

In 2010, our founders started a revolution. Now we're a team of enthusiastic lab rats serving medical practitioners to preserve health. We dream and share one mission: *make humanity healthier.*

We see big opportunities ahead, and we are well-positioned to take advantage of these opportunities with our remarkable set of assets and strengths. We have the people, the plan, and the foundation in place to help us succeed in the next phase of the journey.

At Oakland-System, we live for the big idea, the next great discovery. "Invent" is more than a word: it's who we are. Everything we do, we do to make technology more practical, usable, and valuable to our customers.

The weight of doing great things now resides on your shoulders too. Welcome Aboard!

Come; let's share this journey which is just AWESOME!!!



SOFTTRONIX
IT SOLUTION

Website:- www.softtronix.in

Email Us: hr@softtronix.in, info@softtronix.in

Contact:- 9765073480 / 9168276045

Internship Offer Letter

Dear Rutuja Dongre

16/12/2023

Congratulations!!

This is with reference to your application and subsequent interview held with you, We are pleased to offer you the position of "Java Intern" for "Softtronix IT Solution". Your compensation will be as agreed during our discussions. Your internship begins on 18/12/2023 and ends 18/03/2024.

You are requested to carry a self - attested copy of the following documents.

1. One passport size photograph.
2. All Qualification Certificates.
3. Proof of residence & Aadhaar Card.

Request you to accept the offer latest by today. A detailed offer letter along with the terms and conditions of appointment applicable to you will be issued to you post the completion of the formalities. We welcome you to Softtronix IT Solution and wish you a rewarding career ahead.

Please feel free to get in touch with me at any time for any further information.

Thanking you,

From Softtronix IT Solution

Mr. Sudhir U. Koche

Director / Manager – Human Resources

Nandanvan Office :- 2 floor Shravan Ganga Building, b side jankidevi high school Main, Nandanvan Rd, Nagpur, Maharashtra 440009.

Park Office :- 1st floor Above Anapurna Bajar ,Opp Axis Bank,Shambhaji Square,Near IT Park Nagpur, 440022.

14364000014997355

20-12-23



Internship Offer Letter

To whom so ever concern

prajwal raut

We are pleased to offer you an internship opportunity at YBI Foundation to enhance your skills with practical knowledge. As part of the internship you will be learning new skills, applying concepts for problem solving, working on real world problems and develop networking. This will helps you to enhance knowledge, practical exposure and get ready for the corporate world.

By accepting this internship offer, you agree to follow the terms and conditions of internship and perform all assigned tasks to the best of your ability. In case of any query please do contact us. All the Best!

Start Date: 20-12-23

Domain: Big Data and Cloud Computing

Internship Period: 2 Months

JD College Of Engineering and Management nagpur
41



Credential ID: FTLUQ5LWHUR1J

verify at <https://www.ybifoundation.org/certificate-validation>

www.ybifoundation.org (+91) 9667987711 support@ybifoundation.org

iTpreneur

ITPRENEUR EDUTECH**DATE: 20/12/2023**

To,

Mr. Prajwal Wagh

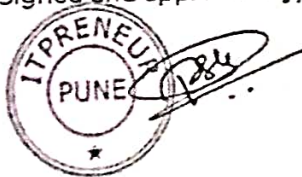
Subject: Internship Joining Letter

We are pleased to inform you that, you have been selected for the Internship program at iTpreneur Pune. During the internship program, you will be developing a project on the Full Stack Development platform under the supervision of our senior team members.

Your project duration will be six months starting from 20th November 2023. This program will reward you with six months of work experience at iTpreneur. And after successful completion of the internship, we will continue your employment on the basis of your performance during the internship.

With warm regards,

(Signed and approved by)



Pranit Kasvekar

iTpreneur

Mobile - +91 9860003582

E-mail: pranit.k@itpreneurpune.com

Address: 2nd floor, Karnik Corner, JM Road,
Deccan, pune-411004www.itpreneurpune.com

To

Date: 15th December, 2023

Harshita Vijay Wasnik

Subject: Internship Offer Letter

Job

Dear Harshita Vijay Wasnik

In reference to your application, we would like to congratulate you on being selected for an internship with the IntelliPaat Software Solutions Pvt. Ltd. Your work is scheduled to start on **22nd January, 2024** for a period of 6 months. During this period, you will get paid **Rs. 22,000/month** (Rupees Twenty-Two Thousand Only) and you will be working as a '**Business Development Trainee**'. The technical platform and job role will be shared with you by your manager on the day of your joining.

Note:

- Number of working days is 6 days a week.
- Your First month stipend(30days)will be on hold and it will be released along with your fourth month stipend.
- During this Internship, you are eligible to get up to **Rs 200,000/-** as an incentive based on your performance.
- During your internship, you are expected to be disciplined and sincere towards your job responsibility.
- Based on your performance, the Pre-Placement Offer will be released before the completion of your internship at IntelliPaat.
- The company reserves the right to pay or recover salary in lieu of the notice period (if applicable) or to relieve you before the expiry of the notice period. All payments and recoveries made under this clause will be based on Gross Salary
- You need to serve **30 days** of notice period without fail, or else the management of IntelliPaat can hold your salary/ experience letter / relieving letter/ any background verification in the future.
- Minimum working duration must be 9 hours including a one-hour lunch/dinner break.
- After the successful completion of 6 Months Internship period total CTC would be **Rs 7,25,000 INR**.
- No examination preparatory leaves will be provided during this period
- If the college/university exams are pending then you are allowed to take leaves for exams and for applying for the same you need to get the letter from your TPO with examination dates and get it approved by your manager.
- No leaves would be allowed during 1st month of your employment (allowed only if it is genuine). If you are takingleaves we would be requiring supporting and admissible documents for the same
- Failing to do the same organization can be liable to take action against your employment

Again, congratulations and we look forward to working with you.

Yours truly,

For IntelliPaat Software Solutions Private Limited



Bhargavi Narayan A S

Associate Vice President- Human Resources

IntelliPaat Software Solutions Pvt. Ltd.

6th Floor, Primeco Towers, Arekere Gate Junction, Bannerghatta Main Road, Bengaluru,
Karnataka-560076

Date : 15-12-2023

To,

Ms. Suhani Babesh Sahare,

Nagpur.

Letter Of Appointment

DEAR SUHANI,

We hereby confirm your appointment to the position of Customer Support Executive at S FOR STYLE, sister company of STYLISH WODROBE (hereafter referred to as "S FOR STYLE.") and agree to assume responsibilities with effect from, 16th December, 2023, in line with the terms and conditions which have been discussed and agreed upon.

1. Roles & Responsibilities

You will be responsible for assisting our customers with exchange queries, order queries and order updates thru Instagram/whatsapp, email and calls for S FOR STYLE. Please note that the job descriptions are indicative and shall include all or any of the jobs, roles, responsibilities & commitments reasonably expected of you in the normal course of business, in accordance with the needs of S FOR STYLE and ordinarily expected of your role.

Reporting: Direct- Ms. Khushboo Chandwani | Founder

2. Place of Posting

You will currently be based out of Nagpur. However, you may be transferred to any location that S FOR STYLE. may so choose or to any of S FOR STYLE.'s subsidiaries or associate companies presently existing or which may be set up in future. You will automatically be governed by the terms and conditions of service applicable to the new location or Company.

3. Total Devotion to Duty

You will devote full attention to your assigned duties. You shall not carry out any business or practice or devote any part of your time to any individual, firm or Company for remuneration or otherwise including freelance service that will, in any way conflict with or compromise the interest of S FOR STYLE. However, you may be permitted to do so, on attaining a written consent from the Director/s. You shall be bound by the Code of Conduct framed by S FOR STYLE. and observe the service rules and breach of the same shall lead to severance of the employment contract without any notice.

4. Confidentiality of Information

You have a duty and an obligation to scrupulously observe fullest confidentiality of any or all of the information about S FOR STYLE. You will not, at any time, while associated with S FOR



@stylish_wodrobe



admin@stylishwodrobe.com



www.stylishwodrobe.com



7004787689

OL No: TN18783

Date : 11 December 2023

Dear Sachi Motghare,

Our hiring team was positively excited to get to know you over the interview call. It is our pleasure to offer you a position with **TEACHNOOK** as an **Business Development Trainee**.

We believe you will be an excellent addition to our team and are very much looking forward to having you onboard.

The following confirms our arrangements regarding your employment with **TEACHNOOK**:

Date of Joining : 6 January 2024

Training Period : 6 January 2024 to 15-January-2024 - (Unpaid)

OJT Start Date: 16-January-2024

OJT End Date: 15-July-2024

Location of Training: Bangalore

Stipend: INR 15000 Per Month

Incentives : INR 10000

Target: 180000 INR per month.

Pre - Placement Offer :- 4 to 6 LPA (After Completion of Training)

I have read and understood the terms and conditions and I accept this offer, as set forth above, with Teachnook, and will report on 6 January 2024.

SIGNATURE: _____

(Candidate's Signature)

DATE: _____

TEACHNOOK EDUTECH

14th Cross Rd, 5th Phase, Sector 6, HSR Layout,
Bengaluru, Karnataka 560102

Mob: +91 90190 30545 hr@teachnook.com

OL No: TN18781

Date : 11 December 2023

Dear Aditi Andelkar Narendra Andelkar,

Our hiring team was positively excited to get to know you over the interview call. It is our pleasure to offer you a position with **TEACHNOOK** as an **Business Development Trainee**.

We believe you will be an excellent addition to our team and are very much looking forward to having you onboard.

The following confirms our arrangements regarding your employment with **TEACHNOOK**:

Date of Joining : 6 January 2024

Training Period : 6 January 2024 to 15-January-2024 - (Unpaid)

OJT Start Date: 16-January-2024

OJT End Date: 15-July-2024

Location of Training: Bangalore

Stipend: INR 15000 Per Month

Incentives : INR 10000

Target: 180000 INR per month.

Pre - Placement Offer :- 4 to 6 LPA (After Completion of Training)

I have read and understood the terms and conditions and I accept this offer, as set forth above, with Teachnook, and will report on **6 January 2024**.

SIGNATURE: _____

(Candidate's Signature)

DATE: _____

TEACHNOOK EDUTECH

14th Cross Rd, 5th Phase, Sector 6, HSR Layout,
Bengaluru, Karnataka 560102

Mob: +91 90190 30545 hr@teachnook.com

PROJECT REPORT

ON

“The Influence of Workfrom Home on IT Employees Productivity”

Submitted by

SHIKHA SAKHARE

Under the Guidance of

Dr. ANJALI CHANDAK

Submitted in partial fulfilment for the award of the degree

Of

Master of Business Administration

Department of Management Studies

JD College of Engineering and Management



Education to Eternity

Rashtrasant Tukadoji Maharaj Nagpur University

Nagpur

SESSION: 2020 – 2021

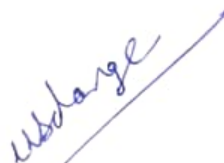
BONAFIDE CERTIFICATE

This is to certify that the project work, entitled "The influence of working from home on IT employees productivity." is the bona fide work of (SHIKHA SAKHARE) who carried out the same under my supervision. This project work is submitted to Rashtrasant Tukadoji Maharaj Nagpur University as partial fulfilment of requirement for the award of degree of Master of Business Administration.



(Dr. Anjali Chandak)

Project Guide



Dr. Ujjwala Dange

Head – Department of Management
Studies



Place: Nagpur

Date: 30/06/2021



DR.S. V. SONEKAR

PRINCIPAL,

J D COLLEGE OF ENGINEERING

AND MANAGEMENT,

NAGPUR.

Principal

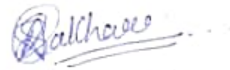
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

DECLARATION

I, the undersigned, hereby declare that the Project Report entitled "**The influence of Working From Home on IT employees productivity.**" is a bonafide and authentic work written and submitted by me to the **Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur** in partial fulfilment of the requirements for the award of degree of Master of Business Administration under the supervision of **Dr. Anjali Chandak**. The project is entirely original and not been submitted earlier to any university for the award of any diploma or degree, nor the data have been derived for any project university.

Place: NAGPUR

Date: 30/06/2021



(SHIKHA SAKHARE)

Signature:

ACKNOWLEDGEMENT

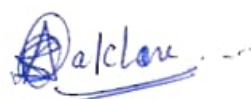
I express my deep sense of gratitude to my Institution, **J D College of Engineering and Management, NAGPUR** for providing an opportunity in fulfilling the most cherished desire for reaching my goal.

I express my immense gratitude to our Principal **Dr.Subhash R Choudhar**for his support and encouragement for the completion of my project.

I extend the immense gratitude to the Head of the Department **Dr.UjwalaDange**for her motivation, inspiration, and encouragement for the completion for my project.

The valuable and unflinching requital support in this Endeavour of **DR. ANJALI CHANDAK** my guide, whose support & guidance was immeasurable to the completion of this project.

Last, but not the least, my heartfelt gratitude to my parents, relatives, my friends and all those luminaries and unseen hands without whose support the completion of this dissertation would not have been materialized.



(SHIKHA SAKHARE)

FINAL PROJECT REPORT

On

**"A STUDY OF CONSUMER BUYING BEHAVIOUR TOWARDS FMCG
PRODUCTS OF HINDUSTAN UNILEVER LTD."**

Submitted by

Miss. SHIRIN NAZ MUSA SHEIKH

Under the Guidance of

Dr. Parvin Shaikh

Submitted in partial fulfillment for the award of the degree

Of

**MASTER OF BUSINESS ADMINISTRATION
DEPARTMENT OF MANAGEMENT STUDIES**



Education to Eternity

**J D COLLEGE OF ENGINEERING AND MANAGEMENT
RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY
NAGPUR**

SESSION: 2020 – 2021

BONAFIDE CERTIFICATE

This is to certify that the project work, entitled "A STUDY OF CONSUMER BUYING BEHAVIOUR TOWARDS FMCG PRODUCTS OF HINDUSTAN UNILEVER LTD." is the bonafide work of Miss. SHIRIN NAZ MUSA SHEIKH who carried out the same under my supervision. This project work is submitted to **Rashtrasant Tukadoji Maharaj Nagpur University** as partial fulfillment of requirement for the award of degree of Master of Business Administration.

Parvin

DR. PARVIN SHAIKH

PROJECT GUIDE

Udorge

DR.

HOD – DEPARTMENT OF
MANAGEMENT STUDIES

Sonekar

DR.S. V. SONEKAR

PRINCIPAL,

J D COLLEGE OF ENGINEERING
AND MANAGEMENT, NAGPUR.

Principal

J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

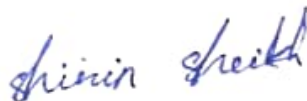


PLACE:

DATE:

DECLARATION

I, the undersigned, hereby declare that the Project Report entitled "A STUDY OF CONSUMER BUYING BEHAVIOUR TOWARDS FMCG PRODUCTS OF HINDUSTAN UNILEVER LTD." is a bonafide and authentic work written and submitted by me to the **Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur** in partial fulfillment of the requirements for the award of degree of Master of Business Administration under supervision of **Dr. Parvin Shaikh**, the project is entirely original and not been submitted earlier to any university for the reward of any diploma or degree, nor the data have been derived for any project or University.



Miss. SHIRIN NAZ MUSA SHEIKH

Signature

Place: NAGPUR

Date:

ACKNOWLEDGEMENT

I express my deep sense of gratitude to my Institution, **J D College of Engineering and Management, NAGPUR** for providing an opportunity in fulfilling the most cherished desire for reaching my goal.

I express my immense gratitude to our Principal **Dr. S. V. Sonekar** for his support and encouragement for the completion of my project.

I extend the immense gratitude to the Head of the Department **Dr. Ujwala Dange** for her motivation, inspiration, and encouragement for the completion for my project.

The valuable and unflinching regal support in this Endeavor of **Dr. Parvin Shaikh** my guide, whose support & guidance was immeasurable to the completion of this project.

Last, but not the least, my heartfelt gratitude to my parents, relatives, my friends and all those luminaries and unseen hands without whose support the completion of this dissertation would not have been materialized.

Shirin Sheikh

Miss. **SHIRIN NAZ MUSA SHEIKH**

FINAL PROJECT REPORT

On

***“A Study on Work Demand, Role Ambiguity, Role Conflict & Work
Life conflict among Faculty members during Covid pandemic in
Nagpur city”***

Submitted by
Prallek Ganvir

Under the Guidance of
Dr. Anjali M. Chandak
(Reference No.1545/C/1008)

***Submitted in partial fulfillment for the award of the degree
of***

MASTER OF BUSINESS ADMINISTRATION

DEPARTMENT OF MANAGEMENT STUDIES




Education to Eternity

**J D COLLEGE OF ENGINEERING AND MANAGEMENT
RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY
NAGPUR**

SESSION: 2020 - 2021

BONAFIDE CERTIFICATE

This is to certify that the project work, entitled "*A Study on Work Demand, Role Ambiguity, Role Conflict & Work Life conflict among Faculty members during Covid pandemic in Nagpur city*" is the bonafide work of **Prallek Ganvir** who carried out the same under my supervision. This project work is submitted to **Rashtasant Tukadoji Maharaj Nagpur University** as partial fulfillment of requirement for the award of degree of Master of Business Administration.



DR. ANJALI CHANDAK
PROJECT GUIDE



DR. UJWALA DANGE
HOD – DEPARTMENT OF
MANAGEMENT STUDIES



DR.S. V. SONEKAR
PRINCIPAL,
J D COLLEGE OF ENGINEERING
AND MANAGEMENT, NAGPUR.

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

PLACE: NAGPUR

Date: 30-05-2021

DECLARATION

I, the undersigned, hereby declare that the Project Report entitled "*A Study on Work Demand, Role Ambiguity, Role Conflict & Work Life conflict among Faculty members during Covid pandemic in Nagpur city*" is a bonafide and authentic work written and submitted by me to the **Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur** in partial fulfillment of the requirements for the award of degree of Master of Business Administration under supervision of **Dr. Anjali Chandak**, the project is entirely original and not been submitted earlier to any university for the reward of any diploma or degree, nor the data have been derived for any project or University.

Place: NAGPUR

Date: 06-07-2021



PRALLEK GANVIR

Signature

ACKNOWLEDGEMENT

I express my deep sense of gratitude to my Institution, **J D College of Engineering and Management, NAGPUR** for providing an opportunity in fulfilling the most cherished desire for reaching my goal.

I express my immense gratitude to our Principal **Dr. S. V. Sonekar** for his support and encouragement for the completion of my project.

I extend the immense gratitude to the Head of the Department **Dr. Ujwala Dange** for her motivation, inspiration, and encouragement for the completion for my project.

The valuable and unflinching requital support in this Endeavor of Dr. Anjali Chandak my guide, whose support & guidance was immeasurable to the completion of this project.

Last, but not the least, my heartfelt gratitude to my parents, relatives, my friends and all those luminaries and unseen hands without whose support the completion of this dissertation would not have been materialized.

FINAL PROJECT REPORT

On

***“A STUDY ON SATISFACTION LEVEL OF EMPLOYEES AT
MICROSOFT”***

Submitted by

Nomaan Ahmed

Under the Guidance of

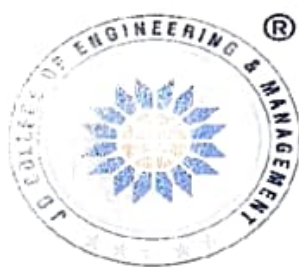
Dr. Anjali M. Chandak

(Reference No. 1545/C/1008)

*Submitted in partial fulfillment for the award of the degree
of*

MASTER OF BUSINESS ADMINISTRATION

DEPARTMENT OF MANAGEMENT STUDIES



Education to Eternity

**J D COLLEGE OF ENGINEERING AND MANAGEMENT
RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY
NAGPUR**

SESSION: 2020 – 2021

BONAFIDE CERTIFICATE

This is to certify that the project work, entitled "A STUDY ON SATISFACTION LEVEL OF EMPLOYEES AT MICROSOFT" is the bonafide work of **Nomaan Ahmed** who carried out the same under my supervision. This project work is submitted to **Rashtrasant Tukadoji Maharaj Nagpur University** as partial fulfillment of requirement for the award of degree of Master of Business Administration.



NAME OF FACULTY - **Dr. Arjali Chaudak**
PROJECT GUIDE



DR. UJWALA DANGE
HOD - DEPARTMENT OF
MANAGEMENT STUDIES



DR. S. V. SONEKAR
PRINCIPAL,
J D COLLEGE OF ENGINEERING
AND MANAGEMENT, NAGPUR.

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

PLACE: NAGPUR
DATE:

DECLARATION

I, the undersigned, hereby declare that the Project Report entitled "A STUDY ON SATISFACTION LEVEL OF EMPLOYEES AT MICROSOFT" is a bonafide and authentic work written and submitted by me to the **Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur** in partial fulfillment of the requirements for the award of degree of Master of Business Administration under supervision of **Dr. Anjali Chandak**, the project is entirely original and not been submitted earlier to any university for the reward of any diploma or degree, nor the data have been derived for any project or University.

Place: NAGPUR

Date:



NOMAN AHMED

Signature

ACKNOWLEDGEMENT

I express my deep sense of gratitude to my Institution, **J D College of Engineering and Management, NAGPUR** for providing an opportunity in fulfilling the most cherished desire for reaching my goal.

I express my immense gratitude to our Principal **Dr. S. V. Sonekar** for his support and encouragement for the completion of my project.

I extend the immense gratitude to the Head of the Department **Dr. Ujwala Dange** for her motivation, inspiration, and encouragement for the completion for my project.

The valuable and unflinching requital support in this Endeavor of **Dr. Anjali Chandak** my guide, whose support & guidance was immeasurable to the completion of this project.

Last, but not the least, my heartfelt gratitude to my parents, relatives, my friends and all those luminaries and unseen hands without whose support the completion of this dissertation would not have been materialized.

FINAL PROJECT REPORT

On

**“PROBLEM AND PROSPECT OF STOCK BROKING IN NAGPUR-A
STUDY”**

Submitted by
Miss. Aishwarya Diliprao Khedikar

Under the Guidance of
Dr. Swarnalata Philip

(1212/C/714)

Submitted in partial fulfillment for the award of the degree

of

MASTER OF BUSINESS ADMINISTRATION

DEPARTMENT OF MANAGEMENT STUDIES



Education to Eternity

**J D COLLEGE OF ENGINEERING AND MANAGEMENT
RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY**

NAGPUR

SESSION: 2020 - 2021

BONAFIDE CERTIFICATE

This is to certify that the project work, entitled "Problem And Prospect Of Stock Broking In Nagpur- A Study" is the bonafide work of Aishwarya Diliprao Khedikar who carried out the same under my supervision. This project work is submitted to Rashtrasant Tukadoji Maharaj Nagpur University as partial fulfillment of requirement for the award of degree of Master of Business Administration.

guel

PROJECT GUIDE

DR.SWARNALATA PHILIP

Udwala

DR. UJWALA DANGE

HOD – DEPARTMENT OF
MANAGEMENT STUDIES



S. V. Sonekar

DR. S. V. SONEKAR

PRINCIPAL.

J D COLLEGE OF ENGINEERING
AND MANAGEMENT, NAGPUR.

Principal

J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

PLACE
DATE

Nagpur.
26/07/2021

DECLARATION

I, the undersigned, hereby declare that the Project Report entitled "**Problem And Prospect Of Stock Broking In Nagpur- A Study**" is a bonafide and authentic work written and submitted by me to the **Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur** in partial fulfillment of the requirements for the award of degree of Master of Business Administration under supervision of **Dr.Swarnalata Philip**, the project is entirely original and not been submitted earlier to any university for the reward of any diploma or degree, nor the data have been derived for any project or University.

Place: NAGPUR

AISHWARYA DILIPRAO KHEDIKAR

Date: 26/07/2021

Signature

Akhelika

ACKNOWLEDGEMENT

I express my deep sense of gratitude to my Institution, **J D College of Engineering and Management, NAGPUR** for providing an opportunity in fulfilling the most cherished desire for reaching my goal.

I express my immense gratitude to our Principal **Dr. S. V. Sonekar** for his support and encouragement for the completion of my project.

I extend the immense gratitude to the Head of the Department **Dr. Ujwala Dange** for her motivation, inspiration, and encouragement for the completion for my project.

The valuable and unflinching requital support in this Endeavor of **Dr. Swarnalata Philip** my guide, whose support & guidance was immeasurable to the completion of this project.

Last, but not the least, my heartfelt gratitude to my parents, relatives, my friends and all those luminaries and unseen hands without whose support the completion of this dissertation would not have been materialized.

Aishwarya Diliprao Khedikar

Akhedikar

SIP PROJECT REPORT

On

**'IMPACT OF ADVERTISEMENT ON CONSUMER DECISION
MAKING TOWARDS AUTOMOBILE IN NAGPUR CITY'**

Submitted by

SAURAV MANDAL

Under the Guidance of

DR. ANJALI CHANDAK

*Submitted in partial fulfillment for the award of the degree
of*

Master of Business Administration

Department of Management Studies

JD College of Engineering and Management



**Rashtrasant Tukadoji Maharaj Nagpur University
Nagpur**

SESSION: 2021– 2022

BONAFIDE CERTIFICATE

This is to certify that the Summer Internship project work, entitled "**Impact of Advertisement on Consumer Decision Making Towards Automobile in Nagpur City**" the bona fide work of **Saurav Mandal** who carried out the same under my supervision. This project work is submitted to **Rashtrasant Tukadoji Maharaj Nagpur University** as partial fulfillment of requirement for the award of degree of Master of Business Administration.



Dr. Anjali Chandak
Project Guide



Dr. Ujwala Dange
Head – Department of Management
Studies



DR. SHRIKANT V. SONEKAR

PRINCIPAL,

J D COLLEGE OF ENGINEERING
AND MANAGEMENT,
NAGPUR.



Principal

J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

Place: Nagpur

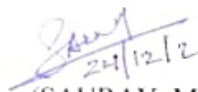
Date: 24/12/2021

DECLARATION

I, the undersigned, hereby declare that the Summer Internship Project Report entitled "**Impact of Advertisement on Consumer Decision Making Towards Automobile in Nagpur City**" is a bonafide and authentic work written and submitted by me to the **Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur** in partial fulfillment of the requirements for the award of degree of Master of Business Administration under the supervision of **Dr. Anjali Chandak**. The project is entirely original and not been submitted earlier to any university for the award of any diploma or degree.

Place: NAGPUR

Date: 24/12/2021


(SAURAV MANDAL)

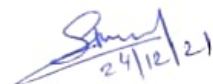
Signature:

ACKNOWLEDGEMENT

I express my immense gratitude to our Principal **Dr. Shrikant V. Sonekar** for his support and encouragement for the completion of my project.

I extend the immense gratitude to the Head of the Department **Dr. Ujwala Dange** for her motivation, inspiration, and encouragement for the completion for my project.

I am thankful to **Dr. Anjali Chandak** for guiding me through this Summer Internship project and continuously encouraging me. It would not have been possible to complete this project without his / her support.

A handwritten signature in blue ink, appearing to read 'Saurav Mandal', with the date '24/12/21' written below it.

(Saurav Mandal)

SIP PROJECT REPORT

On

**“Impulsive buying behaviour among customer’s in
supermarket in Nagpur city”**

Submitted by

PURVA KISHORRAO UDEPURKAR

Under the Guidance of

DR. ANJALI CHANDAK

Submitted in partial fulfillment for the award of the degree

of

Master of Business Administration

Department of Management Studies

JD College of Engineering and Management



Education to Eternity

Rashtrasant Tukadoji Maharaj Nagpur University

Nagpur

SESSION: 2021 – 2022

BONAFIDE CERTIFICATE

This is to certify that the project work, entitled "IMPULSIVE BUYING BEHAVIOUR AMONG CUSTOMER'S IN SUPERMARKET IN NAGPUR CITY" is the bona fide work of (PURVA UDEPURKAR) who carried out the same under my supervision. This project work is submitted to **Rashtrasant Tukadoji Maharaj Nagpur University** as partial fulfilment of requirement for the award of degree of Master of Business Administration.



Dr. Anjali Chandak

Project Guide

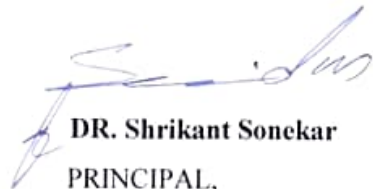


Dr. Ujjwala Dange

Head – Department of Management Studies

Place: Nagpur

Date: 10/1/2022



DR. Shrikant Sonekar

PRINCIPAL,

JDCOLLEGE OF ENGINEERING

AND MANAGEMENT,

NAGPUR.

Principal

J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501



DECLARATION

I, the undersigned, hereby declare that the Summer Internship Project Report entitled "Impulsive buying behaviour among customer's in supermarket in Nagpur city" is a bonafide and authentic work written and submitted by me to the **Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur** in partial fulfillment of the requirements for the award of degree of Master of Business Administration under the supervision of **Dr. Anjali Chandak**. The project is entirely original and not been submitted earlier to any university for the award of any diploma or degree.

Place: NAGPUR

Date: 24/12/21



(PURVA UDEPURKAR)

Signature: .

ACKNOWLEDGEMENT

I express my immense gratitude to our Principal **Dr. Shrikant V. Sonekar** for his support and encouragement for the completion of my project.

I extend the immense gratitude to the Head of the Department **Dr. Ujwala Dange** for her motivation, inspiration, and encouragement for the completion for my project.

I am thankful to **Dr. Anjali Chandak** for guiding me through this Summer Internship project and continuously encouraging me. It would not have been possible to complete this project without her support.


(Purva Udepurkar)

SIP PROJECT REPORT

ON

"A STUDY OF CONSUMER SATISFACTION TOWARDS ONLINE SHOPPING WITH THE REFERENCE TO FLIPKART IN NAGPUR CITY."

Submitted by

ANJALI INDRACHAND BODILE

Under the guidance of

PROF.SHOEB SHEIKH

Submitted in partial fulfillment for the award of the degree

Of

MASTER OF BUSINESS ADMINISTRATION

DEPARTMENT OF MANAGEMENT STUDIES

J D COLLEGE OF ENGINEERING AND MANAGEMENT



Education to Eternity

RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY

NAGPUR

SESSION: 2021 – 2022

BONAFIDE CERTIFICATE

This is certified that the Summer Internship project work, entitled "A STUDY OF CONSUMER SATISFACTION TOWARDS ONLINE SHOPPING WITH THE REFERENCE TO FLIPKART IN NAGPUR CITY" is Bonafide work of ANJALI INDRACHAND BODILE who carried out the same under my supervision. This project work is submitted to RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY as partial fulfillment of requirements for the award of degree Of Master of Business Administration.



Prof. Shoeb Shaikh

Project Guide



Dr. Ujjwala Dange

Head – Department of
Management Studies

Place: Nagpur

Date: 10/01/22



DR. SHRIKANT V. SONEKAR

PRINCIPAL,

J D COLLEGE OF ENGINEERING

AND MANAGEMENT,

NAGPUR.

Principal
J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

DECLARATION

I, the undersigned hereby declare that the Summer Internship Project Report entitled "**A STUDY OF CONSUMER SATISFACTION TOWARDS ONLINE SHOPPING WITH THE REFERENCE TO FLIPKART IN NAGPUR CITY**" is a Bonafide and authentic work written and submitted by me to the Rashtrasant Tukadoji Maharaj Nagpur University in partial fulfillment of the requirement for the award of degree of Master of Business Administration under the supervision of Prof. Shoeb Shaikh. The project is entirely original and not been submitted earlier to any university for the award of any diploma or degree.

Place- Nagpur


Signature

Date-

(ANJALI BODILE)

ACKNOWLEDGEMENT

I express my immense gratitude to our Principal **Dr. Shrikant V. Sonekar** for his support and encouragement for the completion of my project.

I extend the immense gratitude to the Head of the Department **Dr. Ujwala Dange** for her motivation, inspiration and encouragement for the completion for my project.

I am thankful to **Prof. Shoeb Shaikh Sir** for guiding me through this Summer Internship Project and continuously encouraging me. It would not have been possible to complete this project without his/her support.

Anjali
ANJALI BODILE

SIP PROJECT REPORT

On

**‘A STUDY OF CUSTOMER SATISFACTION WITH
RESPECT TO SWARAJ TRACTORS IN AKOLA DISTRICT’**

Submitted by

ROHAN NITIN KOSHTI

Under the Guidance of

Dr. PARVIN SHAIKH

Submitted in partial fulfillment for the award of the degree

of

Master of Business Administration

Department of Management Studies

JD College of Engineering and Management



Education to Eternity

Rashtrasant Tukadoji Maharaj Nagpur University

Nagpur

SESSION: 2021 – 2022

BONAFIDE CERTIFICATE

This is to certify that the Summer Internship project work, entitled "A Study of Customer Satisfaction with Respect to Swaraj Tractors in Akola District" is the bona fide work of **Mr. Rohan Koshti** who carried out the same under my supervision. This project work is submitted to **Rashtrasant Tukadoji Maharaj Nagpur University** as partial fulfillment of requirement for the award of degree of Master of Business Administration.

Parvin

Dr. Parvin Shaikh
Project Guide

Ujwala Dange

Dr. Ujwala Dange
Head – Department of Management
Studies

Place: *Nagpur*

Date: *22/12/2021*

[Signature]

DR. SHRIKANT V. SONEKAR
PRINCIPAL,
J D COLLEGE OF ENGINEERING
AND MANAGEMENT,
NAGPUR.

Principal
J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

DECLARATION

I, the undersigned, hereby declare that the Summer Internship Project Report entitled "**A Study of Customer Satisfaction with Respect to Swaraj Tractors in Akola District**" is a bonafide and authentic work written and submitted by me to the **Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur** in partial fulfillment of the requirements for the award of degree of Master of Business Administration under the supervision of **Dr. Parvin Shaikh**. The project is entirely original and not been submitted earlier to any university for the award of any diploma or degree.

Place: NAGPUR

Date: 22/12/2021

(ROHAN KOSHTI)

Signature:

RKoshti



TO WHOM IT MAY CONCERN

This is to certify that **Mr. Rohan Nitin Koshti, S/O-Nitin Ramesh Koshti**, a student of MBA (Major in Marketing), JD College of Engineering and Management, Nagpur has successfully completed 01 (One) month (From 21st September, 2021 to 21st October, 2021) long internship programme at this Dhawale Autozone Authorised Centre of Swaraj Tractors Mahindra & Mahindra Ltd., Farm Equipment Sector Swaraj Division. During the period of his internship programme with us, he was found punctual, hardworking and inquisitive.

We wish him every success in life.

For,

Dhawale Autozone



(Signature)
(S. R. G. Waghare)

(Authorized Signature)

Authorised Dealer

Dhawale Autozone

Near Radha Krishna Theatre, Murtizapur Road,
Akola (Mh.) - 444001 Tel.: + 919767483823
E-mail ID- dhawale.autozone@gmail.com



ACKNOWLEDGEMENT

I express my immense gratitude to our Principal **Dr. Shrikant V. Sonekar** for his support and encouragement for the completion of my project.

I extend the immense gratitude to the Head of the Department **Dr. Ujwala Dange** for her motivation, inspiration, and encouragement for the completion for my project.

I am thankful to **Dr. Parvin Shaikh** for guiding me through this Summer Internship project and continuously encouraging me. It would not have been possible to complete this project without his / her support.

It is a matter of privilege for me to have done a Summer Internship Project in **(M/s. Dhawale Autozone)** and I am sincerely thankful to them for providing this opportunity to me.

I sincerely express my thanks to **Mr. Sandip Ghogare**, Senior Manager of M/s. Dhawale Autozone of Mahindra and Mahindra of Swaraj Division, for giving me an opportunity to do my internship in their esteemed organization. The interaction with them gave me a lot of practical inputs.

Last but not the least I am thankful to my parents for their constant motivation and logistic support during the period of internship in the above said organization.


(Rohan Koshti)

SIP REPORT

On

**“DETERMINANTS OF CONSUMER BEHAVIOUR TOWARDS
BALAJI PRODUCT IN NAGPUR CITY”**

Submitted by

JYOTI CHOUDHARY

Under the Guidance of

DR. ANJALI CHANDAK

Submitted in partial fulfillment for the award of the degree

of

MASTER OF BUSINESS ADMINISTRATION

Department of Management Studies



Education to Eternity

**JD COLLEGE OF ENGINEERING AND
MANAGEMENT**

**RASHTRASANT TUKADOJI MAHARAJ NAGPUR
UNIVERSITY**

NAGPUR

SESSION: 2021 – 2022

BONAFIDE CERTIFICATE

This is to certify that the Summer Internship project work, entitled "**DETERMINANTS OF CONSUMER BEHAVIOUR TOWARDS BALAJI PRODUCT IN NAGPUR CITY**" is the bona fide work of **Jyoti S. Choudhary** who carried out the same under my supervision. This project work is submitted to **Rashtrasant Tukadoji Maharaj Nagpur University** as partial fulfilment of requirement for the award of degree of Master of Business Administration.



Dr. Anjali Chandak

Project Guide



Dr. Ujwala Dange

Head – Department of Management Studies



Place: Nagpur

Date: 24/12/2021

DR. SHRIKANT V. SONEKAR

PRINCIPAL,

J D COLLEGE OF ENGINEERING

AND MANAGEMENT,

NAGPUR.



Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

DECLARATION

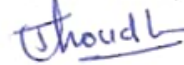
I, the undersigned, hereby declare that the Summer Internship Project Report entitled **"DETERMINANTS OF CONSUMER BEHAVIOUR TOWARDS BALAJI PRODUCT IN NAGPUR CITY"** is a bonafide and authentic work written and submitted by me to the **Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur** in partial fulfilment of the requirements for the award of degree of Master of Business Administration under the supervision of **Dr. Anjali Chandak**. The project is entirely original and not been submitted earlier to any university for the award of any diploma or degree.

Place: NAGPUR

Date: 24/12/2021

(JYOTI S. CHOUDHARY)

Signature:



ACKNOWLEDGEMENT

I express my immense gratitude to our Principal **Dr. Shrikant V. Sonekar** for his support and encouragement for the completion of my project.

I extend the immense gratitude to the Head of the Department **Dr. Ujwala Dange** for her motivation, inspiration, and encouragement for the completion for my project.

I am thankful to **Dr. Anjali Chandak** for guiding me through this Summer Internship project and continuously encouraging me. It would not have been possible to complete this project without her support.



(Jyoti S. Choudhary)

SIP PROJECT REPORT

On

**'IMPACT OF ORGANIZATIONAL WORKING
ENVIRONMENT ON JOB SATISFACTION AND
ATTRITION IN ACCENTURE'**

Submitted by

KOMAL SURESHRAO HARLE

Under the Guidance of

PROF. SHOEB SHAIKH

Submitted in partial fulfillment for the award of the degree

of

Master of Business Administration

Department of Management Studies

JD College of Engineering and Management



Education to Eternity

Rashtrasant Tukadoji Maharaj Nagpur University

Nagpur

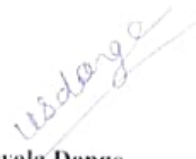
SESSION: 2021 – 2022

BONAFIDE CERTIFICATE

This is to certify that the Summer Internship project work, entitled "**Impact of Organizational working environment on job satisfaction and attrition in accenture**" is the bona fide work of **Komal Sureshrao Harle** who carried out the same under my supervision. This project work is submitted to **Rashtrasant Tukadoji Maharaj Nagpur University** as partial fulfillment of requirement for the award of degree of Master of Business Administration.


Prof. Shoeb Shaikh

Project Guide


Dr. Ujwala Dange

**Head – Department of Management
Studies**

Place: Nagpur

Date: 21/12/2021




DR. SHRIKANT V. SONEKAR

PRINCIPAL,

J D COLLEGE OF ENGINEERING

AND MANAGEMENT,

NAGPUR.

Principal

J-D College of Engineering & Management
Khandala, Katol
Nagpur-441101

DECLARATION

I, the undersigned, hereby declare that the Summer Internship Project Report entitled "**Impact of organizational working environment on job satisfaction and attrition in accenture**" is a bonafide and authentic work written and submitted by me to the **Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur** in partial fulfillment of the requirements for the award of degree of Master of Business Administration under the supervision of **Prof. Shoeb Shaikh**. The project is entirely original and not been submitted earlier to any university for the award of any diploma or degree.

Place: NAGPUR

Date: 24/12/2021

(KOMAL SURESHRAO HARLE)

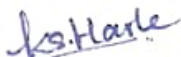
Signature: Komal Suresh Rao Harle

ACKNOWLEDGEMENT

I express my immense gratitude to our Principal **Dr. Shrikant V. Sonekar** for his support and encouragement for the completion of my project.

I extend the immense gratitude to the Head of the Department **Dr. Ujwala Dange** for her motivation, inspiration, and encouragement for the completion for my project.

I am thankful to **Prof. Shoeb Shaikh** for guiding me through this Summer Internship project and continuously encouraging me. It would not have been possible to complete this project without his / her support.


(Komal Sureshrao Harle)

SIP PROJECT REPORT

On

**'CUSTOMER RELATIONSHIP MANAGEMENT OF BHARTI AIRTEL
LIMITED WITH REFERENCE TO POSTPAID CONNECTIONS IN
NORTH NAGPUR CITY'**

Submitted by

DIPTI DIPAK CHINCHKHEDE

Under the Guidance of

PROF. SHOEB SHAIKH

*Submitted in partial fulfillment for the award of the degree
of*

Master of Business Administration

Department of Management Studies

JD College of Engineering and Management



Education to Eternity

Rashtrasant Tukadoji Maharaj Nagpur University

Nagpur

SESSION: 2021 – 2022

BONAFIDE CERTIFICATE

This is to certify that the Summer Internship project work, entitled **customer relationship management of bharti airtel limited with reference to postpaid connections in north nagpur city** is the bona fide work of **Dipti Chinchkhede** who carried out the same under my supervision. This project work is submitted to **Rashtrasant Tukadoji Maharaj Nagpur University** as partial fulfillment of requirement for the award of degree of Master of Business Administration.



Prof. Shoeb Shaikh
Project Guide



Dr. Ujjwala Dange
Head – Department of Management
Studies



Place: Nagpur

Date: 11-1-2022



DR. SHRIKANT V. SONEKAR

PRINCIPAL,

J D COLLEGE OF ENGINEERING
AND MANAGEMENT,
NAGPUR.

Principal

J.D College of Engineering & Management
Khandala, Kar
Nagpur-462010

DECLARATION

I, the undersigned, hereby declare that the Summer Internship Project Report entitled **"customer relationship management of bharti airtel limited with reference to postpaid connections in north nagpur city"** is a bonafide and authentic work written and submitted by me to the **Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur** in partial fulfillment of the requirements for the award of degree of Master of Business Administration under the supervision of **Shoeb Shaikh**. The project is entirely original and not been submitted earlier to any university for the award of any diploma or degree.

Place: NAGPUR

Date:


(DIPTI CHINCHHEDE)

Signature:



EMPOWERING THE GLOBE

अमेरिकन रूलर प्राइवेट लिमिटेड
AMERICAN RULER PRIVATE LIMITED



Internship Completion Certificate

This is to certify that

Dipti Chinchkhede

has successfully completed an internship with IFORTIS WORLDWIDE as a

Marketing & Sales Intern

in the Marketing Department from

10/09/2021 to 10/10/2021

Besides showing high comprehension capacity, managing assignments with the utmost expertise and exhibiting maximal efficiency, he/she has also maintained an outstanding professional demeanor and showcased excellent moral character throughout the internship period.

Wishing the candidate all the best for his/her future endeavors.

Certificate code: IA/2021/M-HR04000316

Place: Tirunelveli, India

Date: 20/10/2021

Rohit Naidu S.
Chief Executive Officer

ISO

29993:2017

**SIP PROJECT REPORT
On**

**“A STUDY ON CONSUMER BUYING PATTERN WITH
REFERENCE TO AMUL MILK IN HINGNA REGION”**

Submitted by

Pankaj Waghdhare

Under the Guidance of

Prof. SHOEB SHEIKH SIR

Submitted in partial fulfillment for the award of the degree

of

MASTER OF BUSINESS ADMINISTRATION

DEPARTMENT OF MANAGEMENT STUDIES



Education to Eternity

**J D COLLEGE OF ENGINEERING AND MANAGEMENT
RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY
NAGPUR**

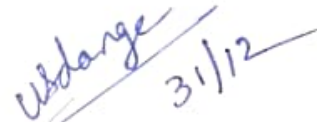
SESSION: 2021 – 2022

BONAFIDE CERTIFICATE

This is to certify that the Summer Internship project work, entitled "A STUDY ON CONSUMER BUYING PATTERN WITH REFERENCE TO AMUL MILK IN HINGNA REGION" is the bonafide work of **Pankaj Waghdhare** who carried out the same under my supervision. This project work is submitted to **Rashtrasant Tukadoji Maharaj Nagpur University** as partial fulfillment of requirement for the award of degree of **Master of Business Administration**.



Prof. Shoeb Sheikh
Project Guide



Dr. Ujwala Dange
Head – Department of Management Studies

Place: Nagpur
Date: 21/12/2021



DR. SHRIKANT V. SONEKAR
PRINCIPAL,
J D COLLEGE OF ENGINEERING
AND MANAGEMENT,
NAGPUR.

Principal
J.D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

DECLARATION

I, the undersigned, hereby declare that the Summer Internship Project Report entitled "A STUDY ON CONSUMER BUYING PATTERN WITH REFERENCE TO AMUL MILK IN HINGNA REGION" is a bonafide and authentic work written and submitted by me to the **Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur** in partial fulfillment of the requirements for the award of degree of Master of Business Administration under the supervision of **Prof. Shoeb Sheikh**. The project is entirely original and not been submitted earlier to any university for the award of any diploma or degree.

Place: NAGPUR

Date: 31/12/2021

(PANKAJ WAGHDHARE)

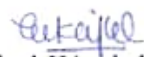
Signature: Pankaj

ACKNOWLEDGEMENT

I express my immense gratitude to our Principal **Dr. Shrikant V. Sonekar** for his support and encouragement for the completion of my project.

I extend the immense gratitude to the Head of the Department **Dr. Ujwala Dange** for her motivation, inspiration, and encouragement for the completion for my project.

I am thankful to **Prof. Shoeb Sheikh** for guiding me through this Summer Internship project and continuously encouraging me. It would not have been possible to complete this project without his / her support.


Pankaj Waghdehare
(Name of Student)

SIP PROJECT REPORT

On

**“A STUDY ON JOB SATISFACTION LEVEL OF EMPLOYEES AT
HDFC BANK IN WARUD ”**

Submitted by

GAYTRI PRAKASH GANORKAR

Under the Guidance of

Dr. PARVIN SHAIKH

Submitted in partial fulfilment for the award of the degree

of

Master of Business Administration

Department of Management Studies

JD College of Engineering and Management



Education to Eternity

Rashtrasant Tukadoji Maharaj Nagpur University

Nagpur

SESSION: 2021 – 2022

BONAFIDE CERTIFICATE

This is to certify that the project work, entitled "A STUDY ON JOB SATISFACTION LEVEL OF EMPLOYEES AT HDFC BANK IN WARUD" is the bona fide work of (GAYTRI GANORKAR) who carried out the same under my supervision. This project work is submitted to Rashtrasant Tukadoji Maharaj Nagpur University as partial fulfilment of requirement for the award of degree of Master of Business Administration.

Parvin

Dr. Parvin Shaikh

Project Guide

Udange

Dr. Ujjwala Dange

Head – Department of Management
Studies

Shrikant

Place: *Nagpur*

Date: *24/12/24*



DR. Shrikant Sonekar

PRINCIPAL,

J D COLLEGE OF ENGINEERING

AND MANAGEMENT,

NAGPUR.

Principal

J.D College of Engineering & Management

Khondala, Patel Road

Nagpur-46501

DECLARATION

I, the undersigned, hereby declare that the Project Report entitled "**A STUDY ON JOB SATISFACTION LEVEL OF EMPLOYEES AT HDFC BANK IN WARUD**" is a bonafide and authentic work written and submitted by me to the **Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur** in partial fulfilment of the requirements for the award of degree of Master of Business Administration under the supervision of **Dr. Parvin Shaikh**. The project is entirely original and not been submitted earlier to any university for the award of any diploma or degree

Place: NAGPUR

Date: 24/12/21

G.P. Ganorkar (GAYTRI GANORKAR)

Signature:

ACKNOWLEDGEMENT

I am thankful to my project guide, Dr. Parwin Shaikh for her invaluable supervision, unending support, constant encouragement, helpfulness and constructive criticism through this project and continuously encouraging me and a special thanks to head of department Dr. Ujwala Dange It would not have been possible to complete this project without her support. I am also thankful to the principal Dr. Shrikant Sonekar, all the faculty members of department of management studies, JD College Of Engineering and Management for helping me during the project.

G.P. Ganorkar
(GAYTRI GANORKAR)

SIP PROJECT REPORT

ON

**"A study of marketing strategy beauty product of lakme cosmetic in
Nagpur region."**

Submitted by

NIHAR RAVINDRA GAJBHIYE

Under the Guidance of

Dr. PARVIN SHAIKH

Submitted in partial fulfillment for the award of the degree

Of

Master of Business Administration

Department of Management Studies



Education to Eternity

**J D COLLEGE OF ENGINEERING AND MANAGEMENT
RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY**

NAGPUR

SESSION: 2021-2022

CERTIFICATE

This is to certify that the Summer Internship Project work, in titled **A STUDY OF MARKETING STRATEGY BEAUTY PRODUCT OF LAKME COSMETIC IN NAGPUR REGION** is the bonafide work of Nihar Ravindra Gajbhiye who carried out the same under my supervision. This project work is submitted to **Rashtrasant Tukadoji Maharaj Nagpur University** as partial fulfillment of requirement for the award of degree of Master of Business Administration.

Parvin

Prof.Dr. Parvin Shaikh

Project Guide

Udarge

Dr. Ujwala Dange

Head- Department of Management Studies

Sonekar

Place : *Nagpur*

Date : *17/01/2022*



DR. SHRIKANT V. SONEKAR

PRINCIPAL,

J D COLLEGE OF ENGINEERING

AND MANAGEMENT

NAGPUR.

Principal

J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

DECLARATION

I, the undersigned, hereby declare that the Summer Internship Project Report entitled " **A STUDY OF MARKETING STRATEGY BEAUTY PRODUCT OF LAKME COSMETIC IN NAGPUR REGION**" is a bonafide and authentic work written and submitted by me to the Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur in partial fulfillment of the requirements for the award of degree of Master of Business Administration under the supervision of Dr. Parvin Shaikh . The project is entirely original and not been submitted earlier to any university for the award of any diploma or degree.

Place : Nagpur

Date : 17/01/2022

N. R. Gajbhiye

Nihar Ravindra Gajbhiye

Signature :

ACKNOWLEDGEMENT

I express my immense gratitude to our Principal Dr. Shrikant V. Sonekar for this support and encouragement for the completion of my project.

I extend the immense gratitude to the Head of the Department Dr. Ujwala Dange for her motivation, inspiration, and encouragement for the completion for my project.

I am thankful to Dr. Parvin Shaikh for guiding me through this Summer Internship Project and continuously encouraging me. It would not have been possible to complete this project without her support.

N. R. Gajbhiye

Nihar Ravindra Gajbhiye

SIP PROJECT REPORT
ON
“PROSPECT AND CHALLENGES OF MOBILE BANKING AMONG
YOUNGSTER’S IN NAGPUR CITY”

Submitted by
TINA VIJAY GONE

Under the Guidance of
Dr. PARVIN SHAIKH

Submitted in partial fulfillment for the award of the degree
of

MASTER OF BUSINESS ADMINISTRATION

DEPARTMENT OF MANAGEMENT STUDIES



Education to Eternity

J D COLLEGE OF ENGINEERING AND MANAGEMENT
RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY
NAGPUR

SESSION: 2021 – 2022

BONAFIDE CERTIFICATE

This is to certify that the Summer Internship project work, entitled **Prospect and challenges of Mobile Banking among youngster's in Nagpur City** is the bona fide work of **Tina Vijay Gone** who carried out the same under my supervision. This project work is submitted to **Rashtrasant Tukadoji Maharaj Nagpur University** as partial fulfillment of requirement for the award of degree of Master of Business Administration.

Parvin

Dr. Parvin Shaikh
Project Guide

Ujjwala

Dr. Ujjwala Dango

Head – Department of Management
Studies

Shrikant V. Sonekar

Place: *Nagpur*

Date: *13/1/2022*

DR. SHRIKANT V. SONEKAR

PRINCIPAL,

J D COLLEGE OF ENGINEERING

AND MANAGEMENT,

NAGPUR.

Principal

J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501



DECLARATION

I, the undersigned, hereby declare that the Summer Internship Project Report entitled **"Prospect and challenges of Mobile Banking among youngster's in Nagpur City"** is a bonafide and authentic work written and submitted by me to the **Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur** in partial fulfillment of the requirements for the award of degree of Master of Business Administration under the supervision of **Dr. Parvin Shaikh**. The project is entirely original and not been submitted earlier to any university for the award of any diploma or degree.

Place: NAGPUR

TINA VIJAY GONE

Date: 13/1/2022


Signature:

ACKNOWLEDGEMENT

I express my immense gratitude to our Principal **Dr. Shrikant V. Sonekar** for his support and encouragement for the completion of my project.

I extend the immense gratitude to the Head of the Department **Dr. Ujwala Dange** for her motivation, inspiration, and encouragement for the completion for my project.

I am thankful to **Dr. Parvin Shaikh** for guiding me through this Summer Internship project and continuously encouraging me. It would not have been possible to complete this project without his / her support.


(Tina Vijay Gone)

SIP PROJECT REPORT

On

**“GENDER DISCRIMINATION AT WORK PLACE: A STUDY OF EMPLOYEE
PERCEPTION AT BANKING SECTOR”**

Submitted by

CHAITANYA LALA WAGHMARE

Under the Guidance of

Dr. PARVIN SHAIKH

*Submitted in partial fulfillment for the award
of the degree*

Of

MASTER OF BUSINESS ADMINISTRATION

DEPARTMENT OF MANAGEMENT STUDIES

J D COLLEGE OF ENGINEERING AND MANAGEMENT



Education to Eternity

RASHTRASANT TUKADOJI MAHARAJ

NAGPUR UNIVERSITY

SESSION: 2022-2023

BONAFIDE CERTIFICATE

This is to certify that the Summer Internship project work, entitled "GENDER DISCRIMINATION AT WORK PLACE: A STUDY OF EMPLOYEE PERCEPTION AT BANKING SECTOR" is the bona fide work of CHAITANYA LALA WAGHMARE who carried out the same under my supervision. This project work is submitted to Rashtrasant Tukadoji Maharaj Nagpur University as partial fulfillment of requirement for the award of degree of Master of Business Administration.

Parvin

Dr. PARVIN SHAIKH

Project Guide

Parvin

Dr. UJWALA DANGE

Head - Department of Management studies

Place: Nagpur

Date: 14/12/22

Shrikant

Dr. SHRIKANT SONEKAR

Principal,

JD College Engineering
& Management, Nagpur

Principal

JD College of Engineering & Management
Khandala, Katol Road
Nagpur-441501



DECLARATION

I, the undersigned, hereby declare that the Project Report entitled "GENDER DISCRIMINATION AT WORK PLACE: A STUDY OF EMPLOYEE PERCEPTION AT BANKING SECTOR" is a bonafide and authentic work written and submitted by me to the **Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur** in partial fulfillment of the requirements for the award of degree of Master of Business Administration under the supervision of **Dr. Parvin Shaikh**. The project is entirely original and not been submitted earlier to any university for the award of any diploma or degree.

Place: NAGPUR

Date: 14/12/22



(CHAITNAYA LALA WAGHMARE)

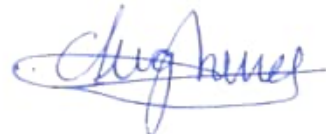
Signature:

ACKNOWLEDGEMENT

I express my immense gratitude to our principal **Dr. Shrikant V. Sonekar**, for his support and encouragement for the completion of my project.

I extend the immense gratitude to the Head of the Department **Dr. Ujwala Dange** for her motivation, inspiration, and encouragement for the completion for my project.

I am thankful to **Dr. Parvin Shaikh** for guiding me through this Summer Internship Project and continuously encouraging me. It would not have been possible to complete this project without his/her support.



CHAITANYA LALA WAGHMARE

INVESTIGATION OF CURVED TUBE

A Project Report submitted in partial fulfillment of the requirement for
the award of the degree of

Bachelor of Technology

In

Mechanical Engineering

Submitted By

PRASAD NILLAWAR

SHUBHAM CHAWHAN

RAHUL DIGHORE

SONUKUMAR MANDAPE

SHUBHAM RAYEWAR

RAJESH RAI

Under the Guidance of

Prof. N. R. MESHRAM



Education to Eternity

MECHANICAL

J D College of Engineering and Management, Nagpur-441501

Affiliated To Dr Babasaheb Ambedkar Technology University, Lonere

Year 2021-2022

DECLARATION

We hereby declare that the work presented in this project report entitled, **“Investigation of Curved Tube”** in the subject **Mechanical Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Prof. N. R. Meshram**, Department of Mechanical Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place :- Nagpur

Date :- 08/07/2022

Name of Students

Prasad Nillawar

Shubham Chawhan

Rahul Dighore


Sonukumar Mandape

Shubham Rayewar

Rajesh Rai

CERTIFICATE

This is to certify that the project report entitled, "**Investigation Of Curved Tube**" in the subject **Mechanical engineering** in the faculty of Science and Technology submitted by **Prasad Nillawar, Shubham Chawhan, Rahul Dighore, Sonukumar Mandape, Shubham Rayewar, Rajesh Rai** to **Dr. Babasaheb Amedkar Technological University, Lonere** for the award of the degree of **Bachelor of Technologies** is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.



Prof. N. R. Meshram

Department of Mechanical Engineering

Forwarded to:-



Prof. J. S. Pachbhai

Project Coordinator



Dr. Bhushan Mahajan

Head of the Department
Mechanical Department



Dr. Shrikant.V.Sonekar

Principal



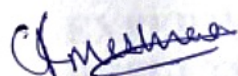
Principal

J.D. College of Engineering & Management

Khandala, Katol Road
Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on “**INVESTIGATION OF CURVED TUBE**” approved work done by **Prasad Nillawar, Shubham Chawhan, Rahul Dighore, Sonukumar Mandape, Shubham Rayewar, Rajesh Rai** in partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology in Mechanical Engineering** at **J D College of Engineering & Management, Nagpur** affiliated to **Dr. Babasaheb Ambedkar Technological University, Lonere** during the academic year 2020-2021.



Prof. N. R. Meshram
Guide



Dr. Bhushan R. Mahajan
Head of the Department

Project Examination held on 08/07/2022



Internal Examiner/ Guide



External Examiner

MODIFICATION OF HEAT GUN FOR THE PURPOSE OF MINIMIZATION OF AIR BUBBLE IN WOOD OR LAMINATE

A Project Report submitted in partial fulfillment of the requirements for
the award of the degree of

Bachelor of Technology

In

Mechanical Engineering

Submitted by :-

**LOKESH MESHRAM
PANKAJ GODBOLE
RUSHABH BANSOD
KAPIL KHANDEKAR
DHAMMADIP KHANDEKAR**

**Under the Guidance of
Prof. SIDDHARTH GHOSH**



Education to Eternity

MECHANICAL

J D College of Engineering and Management, Nagpur-441501

**Affiliated to Dr Babasaheb Ambedkar Technological University, Lonere.
Year 2021-2022**

DECLARATION

We hereby declare that the work presented in this project report entitled, "**Modification of heat gun for the purpose of minimization of air bubbles in wood or laminate**" in the subject **Mechanical Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. **Siddharth Ghosh** Mechanical engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place:- Nagpur

Date: 08/07/2022

Name of Students

Lokesh Meshram

Pankaj Godbole

Rushabh Bansod

Kapil Khandekar

Dhammadip Khandekar

CERTIFICATE

This is to certify that the project report entitled, "**Modification of heat gun for the purpose of minimization of air bubbles in wood or laminate**" in the subject **Mechanical Engineering** in the faculty of Science and Technology submitted by **Lokesh Meshram, Pankaj Godbole, Rushabh Bansod, Kapil Khandekar, Dhammadip Khandekar** to **Dr. Babasaheb Ambedkar Technological University, Lonere** for the award of the degree of **Bachelor of Technologies** is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.



Siddharth Ghosh

Department of mechanical engineering


Forwarded to:



Prof. Siddharth Ghosh
Project Coordinator



Dr. Bhushan Mahajan
Head of the Department
Mechanical Department



Dr. Srikant.V. Sonekar
PRINCIPAL

Principal
J.D. College of Engineering & Management
Khandala, Katol Road
NAGPUR-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on **Modification of heat gun for the purpose of minimization of air bubbles in wood or laminate** is approved work done by

**LOKESH MESHRAM
PANKAJ GODBOLE
RUSHABH BANSOD
KAPIL KHANDEKAR
DHAMMADIP KHANDEKAR**

In partial fulfillment of the requirements for the award of the degree of **Bachelor of Engineering in Name of Branch** at **J D College of Engineering & Management, Nagpur** affiliated to **Dr. Babasaheb Ambedkar Technological University, Lonere** during the academic year **21 -22 .**



Prof. Siddharth Ghosh
Guide



Dr. Bhushan Mahajan
Head of the Department

Project Examination held on 08/07/2022



Internal Examiner/ Guide



External Examiner

CYBER-PHYSICAL SYSTEM ARCHITECTURE UTILIZING DIGITAL LEAN PRINCIPLES FOR INDUSTRY 4.0 MANUFACTURING SYSTEM

A Project Report submitted in partial fulfillment of the requirements

For the award of the degree of

Bachelor of Technology In

Mechanical Engineering

Submitted by

**Vaibhav D. Shevale
Yash S. Warghane
Manoj M. Dharni**

**Success L. Babhare
Sourabh R. Bhaisare
Shreyash G. komalkar**

**Prayag S.Jadhav
Aditya D. Dhepe
Sandip G. Bagde**

Under the Guidance of

Prof. Praful P. Ulhe.



Education to Eternity

Department of Mechanical Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2021-22

DECLARATION

We hereby declare that the work presented in this project report entitled, **“CYBER-PHYSICAL SYSTEM ARCHITECTURE UTILIZING DIGITAL LEAN PRINCIPLES FOR INDUSTRY 4.0 MANUFACTURING SYSTEM”** in the subject **Mechanical Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Prof. Praful P. Ulhe**, Department of Mechanical Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date: 08/07/2022

Name of Students

Vaibhav D. Shevale

Success L. Babhare

Prayag S. Jadhav

Yash S. Warghane

Aditya D. Dhepe

Manoj M. Dharni

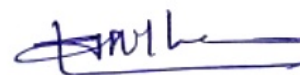
Sourabh R. Bhaisare

Sandip G. Bagde

Shreyash komalkar

CERTIFICATE

This is to certify that the project report entitled, "**CYBER-PHYSICAL SYSTEM ARCHITECTURE UTILIZING DIGITAL LEAN PRINCIPLES FOR INDUSTRY 4.0 MANUFACTURING SYSTEM**" in the subject **Department of Mechanical Engineering** in the faculty of Science and Technology submitted by **Vaibhav D. Shevale, Success L. Babhare, Prayag S. Jadhav, Yash S. Warghane, Aditya D. Dhepe, Manoj M. Dharni, Sourabh R. Bhaisare, Sandip G. Bagde Shreyash G. komalkar** to **Dr. Babasaheb Ambedkar Technological University, Lonere** for the award of the degree of **Bachelor of Technology** is a Bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.



Prof. Praful P. Ulhe.

Department of Mechanical Engineering

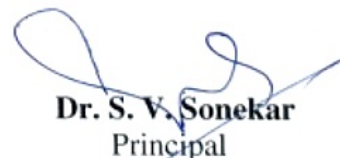
Forwarded to:



Prof. Siddharth S. Ghosh
Project Coordinator



Dr. Bhushan R. Mahajan
Head of the Department
Department of Mechanical Engineering




Dr. S. V. Sonekar
Principal


Principal

J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501


CERTIFICATE OF APPROVAL

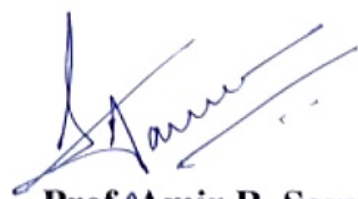
This is to certify that the Project Report on “CYBER-PHYSICAL SYSTEM ARCHITECTURE UTILIZING DIGITAL LEAN PRINCIPLES FOR INDUSTRY 4.0 MANUFACTURING SYSTEM” approved work done by Vaibhav D. Shevale, Success L. Babhare, Prayag S. Jadhav, Yash S. Warghane, Aditya D. Dhepe, Manoj M. Dharni, Sourabh R. Bhaisare, Sandip G. Bagde Shreyash G. komalkar in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Mechanical Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere during the academic year 2021-2022.


Prof. Praful P. Ulhe.
Guide


Dr. Bhushan R. Mahajan
Head of the Department

Project Examination held on 08/07/2022


Prof. Praful P. Ulhe.
Internal Examiner/ Guide


Prof. Amir R. Sayyed
External Examiner

DEVELOPMENT OF SOLAR STILL FOR DISTILLATION OF DOMESTIC WASTE WATER

A thesis submitted in partial fulfillment of the requirements for the

award of the degree of

Bachelor of Technology

In

Mechanical Engineering

Submitted by

PRADIP S. MANDAL

NAZIM SHEIKH

PRACHI A. BUCHUNDE

ABHISHEK S. KAGDELWAR

PRANJAL A. RAUT

Under the Guidance of

Prof. SHYAMAL CHAKRABARTY



Education to Eternity

MECHANICAL

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr Babasaheb Ambedkar Technological University, Lonere.

Year 2020-2021

DEVELOPMENT OF SOLAR STILL FOR DISTILLATION OF DOMESTIC WASTE WATER

A thesis submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Technology

In

Mechanical Engineering

Submitted by

PRADIP S. MANDAL

NAZIM SHEIKH

PRACHI A. BUCHUNDE

ABHISHEK S. KAGDELWAR

PRANJAL A. RAUT

Under the Guidance of

Prof. SHYAMAL CHAKRABARTY



Education to Eternity

MECHANICAL

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2020-2021

DECLARATION

We hereby declare that the work presented in this project report entitled, **“Development of solar still for distillation of domestic waste water”** in the subject **Mechanical** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Prof. Shyamal Chakrabarty**, Mechanical Department, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date: 08/07/2022

Name of Students

Pradip S. Mandal

Nazim Sheikh

Prachi A. Buchunde

Abhishek S.

Kagdelwar

Pranjal A. Raut

CERTIFICATE

This is to certify that the project report entitled, “**Development of solar still for distillation of domestic waste water**” in the subject **Mechanical** in the faculty of Science and Technology submitted by **Pradip S. Mandal, Nazim Sheikh, Prachi A. Buchunde, Abhishek S. Kagdelwar, Pranjal A. Raut** to **Dr. Babasaheb Ambedkar Technological University, Lonere** for the award of the degree of **Bachelor of Technology** is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

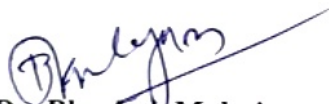


Shyamal Chakrabarty
Department of Mechanical Engineering

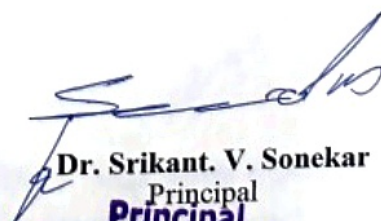
Forwarded to:



Prof. Rahul Deshmukh
Project Coordinator



Dr. Bhushan Mahajan
Head of the Department
Mechanical Department



Dr. Srikant V. Sonekar
Principal
Principal
J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on **DEVELOPMENT OF SOLAR STILL FOR DISTILLATION OF DOMESTIC WASTE WATER** is approved work done by

PRADIP S. MANDAL

NAZIM SHEIKH

PRACHI A. BUCHUNDE

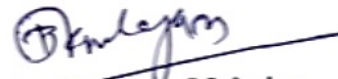
ABHISHEK S. KAGDELWAR

PRANJAL A. RAUT

In partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology in Mechanical** at J D College of Engineering & Management, Nagpur affiliated to **Dr Babasaheb Ambedkar Technological University, Lonere** during the academic year 2020-2021



Prof. Shyamal Chakrabarty
Guide

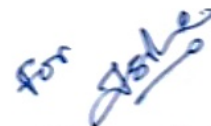


Dr. Bhushan Mahajan
Head of Department

Project Examination held on 08/07/2022



Internal Examiner/ Guide



Prof. Dharmesh Agrawal
External Examiner

EXPERIMENTAL INVESTIGATION OF HEAT TRANSFER CHARACTERISTICS OF HELICAL COIL FOR LAMINAR FLOW

A Project Report submitted in partial fulfillment of the requirements
For the award of the degree of
Bachelor of Technology

In

Mechanical

Engineering Submitted

by

Vivek V. Thakur

Naman S. Nag

Susobhan S. Maity

Durgesh D. Meshram

Rohit R. Mahore

Suraj R. Meshram

Under the Guidance

of

Prof. J.S. Pachbhai



Education to Eternity

Department of Mechanical Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University,

Lonere Year 2021-22

EXPERIMENTAL INVESTIGATION OF HEAT TRANSFER CHARACTERISTICS OF HELICAL COIL FOR LAMINAR FLOW

A Project Report submitted in partial fulfillment of the requirements
For the award of the degree of

Bachelor of Technology

In

Mechanical Engineering

Submitted by

Vivek V. Thakur

Naman S. Nag

Susobhan S. Maity

Durgesh D. Meshram

Rohit R. Mahore

Suraj R. Meshram

Under the Guidance

of

Prof. J.S. Pachbhai



Education to Eternity

Department of Mechanical Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2021-22

DECLARATION

We hereby declare that the work presented in this project report entitled, **“EXPERIMENTAL INVESTIGATION OF HEAT TRANSFER CHARACTERISTICS OF HELICAL COIL FOR LAMINAR FLOW”** in the subject **Mechanical Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Prof. J.S. Pachbhai**, Department of Mechanical Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date: 08/07/2022

Name of Students

Naman S. Nag

Vivek V. Thakur

Susobhan S. Maity

Durgesh D. Meshram

Rohit R. Mahore

Suraj R. Meshram

CERTIFICATE

This is to certify that the project report entitled, "**EXPERIMENTAL INVESTIGATION OF HEAT TRANSFER CHARACTERISTICS OF HELICAL COIL FOR LAMINAR FLOW**" in the subject **Department of Mechanical Engineering** in the faculty of Science and Technology submitted by **Naman S. Nag, Vivek V. Thakur, Durgesh D. Meshram, Susobhan S. Maity, Rohit R. Mahore, Suraj R. Meshram** to **Dr. Babasaheb Ambedkar Technological University, Lonere** for the award of the degree of **Bachelor of Technology** is a Bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.



Prof. J.S. Pachbahi.

Department of Mechanical Engineering

Forwarded to:

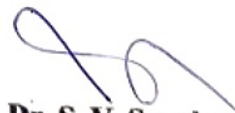


Prof. S. S. Ghosh
Project Coordinator



Dr. Bhushan R. Mahajan
Head of the Department

Department of Mechanical Engineering



Dr. S. V. Sonekar

Principal

Principal

J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on “**EXPERIMENTAL INVESTIGATION OF HEAT TRANSFER CHARACTERISTICS OF HELICAL COIL FOR LAMINAR FLOW**” approved work done by **Naman S. Nag, Vivek V. Thakur, Durgesh D. Meshram, Susobhan S. Maity, Rohit R. Mahore, Suraj R. Meshram** in partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology in Mechanical Engineering** at **J D College of Engineering & Management, Nagpur** affiliated to **Dr. Babasaheb Ambedkar Technological University, Lonere** during the academic year 2020-2021.

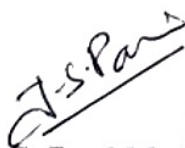


Prof. J. S. Pachbhai
Guide

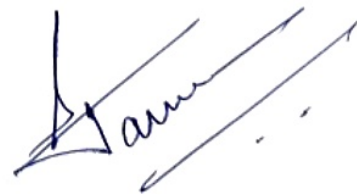


Dr. Bhushan R. Mahajan
Head of the Department

Project Examination held on 8 July 2022



Prof. J. S. Pachbhai
Internal Examiner/ Guide



Prof. Aqmir R. Sayyed
External Examiner

DESIGN AND FABRICATION OF ROCKER BOGIE MECHANISM

A Project Report submitted in partial fulfillment of the requirements
For the award of the degree of
Bachelor of Technology

In

Mechanical Engineering

Submitted by

Mr. Pravesh P. Gajbhiye

Mr. Pradip I. Mesharam

Mr. Dharmendra Parshuramkar

Under the Guidance

Prof. Nozendra Mesharam



Education to Eternity

Department of Mechanical Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere

Year 2021-22

Design And Fabrication Of Rocker Bogie Mechanism

A Project Report submitted in partial fulfillment of the requirements for

the award of the degree of

Bachelor of Technology

In

Mechanical Engineering

Submitted by

Mr. Pravesh P. Gajbhiye

Mr. Pradip I. Mesharam

Mr. Dharmendra Parshuramkar

Under the Guidance of

Prof. Nozendra Meshram



Education to Eternity

Department of Mechanical Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2021-22

DECLARATION

We hereby declare that the work presented in this project report entitled, “**Design And Fabrication Of Rocker Bogie Mechanism** ” in the subject of **Mechanical Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Prof. Nozendra Mesharam** , Department of Mechanical Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place : Nagpur

Date : _07/2022

Students Name

Mr. Pravesh P. Gajbhiye

Mr. Pradip I. Mesharam

Mr. Dharmendra Parshuramkar

CERTIFICATE

This is to certify that the project report entitled, "**Design And Fabrication of Rocker Bogie Mechanism** " in the subject **Department of Mechanical Engineering** in the faculty of Science and Technology submitted by **Pravesh Gajbhiye , Pradip Mesharam & Dharmendra Parshuramkar** to **Dr. Babasaheb Ambedkar Technological University, Lonere** for the award of the degree of **Bachelor of Technology** is a bonafide record of work carried out by them under my Supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

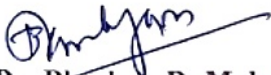


Prof. Nozendra Meshram
Department of Mechanical Engineering

Forwarded to:

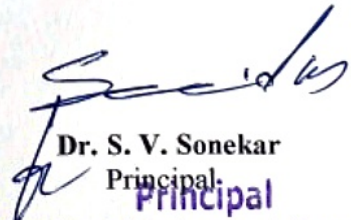


Prof. S. S. Ghosh
Project Coordinator



Dr. Bhushan R. Mahajan

Head of the Department
Department of Mechanical Engineering



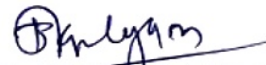
Dr. S. V. Sonekar
Principal
J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on “Design And Fabrication Of Rocker Bogie Mechanism ” approved work done by **Pravesh Gajbhiye , Pradip Mesharam, & Dharmendra Parshuramkar** in partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology in Mechanical Engineering** at J D College of Engineering & Management, Nagpur affiliated to **Dr. Babasaheb Ambedkar Technological University, Lonere** during the academic year 2021-2022.

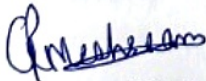


Prof. Nozendra Mesharam
Guide



Dr. Bhushan R. Mahajan
Head of the Department

Project Examination held on 07/02/2022



Prof. Nozendra Mesharam
Internal Examiner/ Guide



Prof. Dimple Yelav
External Examiner

“Experimental Investigation of an external magnetic field on performance of Vapour Compression Refrigeration System.”

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Technology

In

Mechanical Engineering

Submitted by

Mr. Sanket P. Bandawar

Mr. Mayur B. shelke

Mr. Mayur C. Kumbhare

Mr. Harsh S. Meshram

Mr. Vyanktesh P. Kalbande

Mr. Omkar A. Vyavahare

Under the Guidance of

Prof. Vikrant katekar



Education to Eternity

Mechanical Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2021-22

DECLARATION

We hereby declare that the work presented in this project report entitled, “**Experimental Investigation of an external magnetic field on vapour compression refrigeration system.**” in the subject **Mechanical Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Vikrant Katekar, Mechanical Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date: 07/02/2022

Mr. Sanket P. Bandawar

Mr. Mayur B. shelke

Mr. Mayur C. Kumbhare

Mr. Harsh S. Meshram

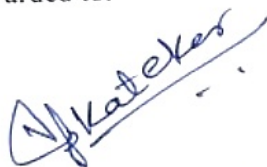
Mr. Vyanktesh P.Kalband

Mr. Omkar A. Vyavahare

CERTIFICATE

This is to certify that the project report entitled, “**Experimental Investigation of External Magnetic Field On Vapour Compression Refrigeration System**” in the subject **Mechanical Engineering** in the faculty of Science and Technology submitted by **Name of the Students** to **Dr. Babasaheb Ambedkar Technological University, Lonere** for the award of the degree of **Bachelor of Technology** is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

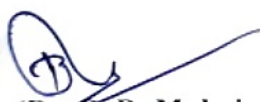
Forwarded to:



(Prof. Vikrant katekar)
Project Coordinator



(Prof. Vikrant katekar)
Mechanical Engineering Department



(Dr. B. R. Mahajan)
Head of the Department
Mechanical Engineering Department



(Dr. S. V. Sonkar)
Principal,
JDCOEM, Nagpur
Principal
J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501



CERTIFICATE OF APPROVAL

This is to certify that the Project Report on “**Experimental Investigation of External Magnetic Field on VCRs System**” is approved work done by

Mr. Sanket P. Bandawar

Mr. Mayur B. shelke

Mr. Mayur C. Kumbhare


Mr. Harsh S. Meshram

Mr. Vyanktesh P. Kalbande


Mr. Omkar A. Vyavahare


In partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology** in **Mechanical Engineering** at J D College of Engineering & Management, Nagpur affiliated to **Dr. Babasaheb Ambedkar Technological University, Lonere** during the academic year 2021-2022.


Prof. Vikrant katekar
Guide


Dr. Bhushan Mahajan
Head of the Department

Project Examination held on 07/02/2022


Internal Examiner/ Guide


External Examiner

MODIFICATION OF IOT ENABLED FERTIBOTIX MACHINE

A Project Report submitted in partial fulfillment of the
requirements for the award of the degree of

Bachelor of Technology

In

Mechanical Engineering

Submitted by

Ankit Barodkar Saniya Lade Grishal Gaydhane
Divya Chandiwalé Prachi Lade Dinesh Ghate

Under the Guidance of

Prof. Siddharth S .Ghosh



Education to Eternity

Department of Mechanical Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2021-22

MODIFICATION OF IOT ENABLED FERTIBOTIX MACHINE

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology

In

Mechanical Engineering

Department of Mechanical Engineering

Submitted by

Ankit Barodkar

Saniya Lade

Grishal Gaydhane

Divya Chandiware

Prachi Lade

Dinesh Ghate

Under the Guidance of

Prof. Siddharth S. Ghosh



Education to Eternity

Department of Mechanical Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University,

Raigad.

Year 2021-22

DECLARATION

We hereby declare that the work presented in this project report entitled, **“Modification of Iot Enabled Fertibotix Machine”** in the subject **Mechanical Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Prof. Siddharth S. Ghosh**, Department of Mechanical Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: **Nagpur**
Date: **08/07/2022**

Name of Students

Ankit G. Barodkar
Saniya R. Lade
Grishal V. Gaydhane
Divya R. Chandiware
Prachi E. Lade
Dinesh S. Ghate

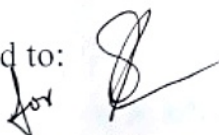
CERTIFICATE

This is to certify that the project report entitled, "**Modification of Iot Enabled Fertibotix Machine**" in the subject **Department of Mechanical Engineering** in the faculty of Science and Technology submitted by Ankit Barodkar , Saniya Lade ,Grishal Gaydhane , Divya Chandiware , Prachi Lade, Dinesh Ghate to **Dr. Babasaheb Ambedkar Technological University, Lonere Raigad** for the award of the degree of **Bachelor of Technology** is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

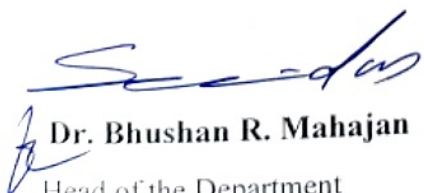


Prof. Siddharth S. Ghosh
Department of Mechanical Engineering

Forwarded to:



Prof. Dinesh A. Yelure
Project Coordinator



Dr. Bhushan R. Mahajan
Head of the Department
Department of Mechanical Engineering



Dr. S. V. Sonekar
(Name of the Principal)
Principal

Principal
J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on “**Modification of Iot Enabled Fertibotix Machine**” is approved work done by

Ankit G. Barodkar

Saniya R. Lade

Grishal V. Gaydhane

Divya R.Chandiwale

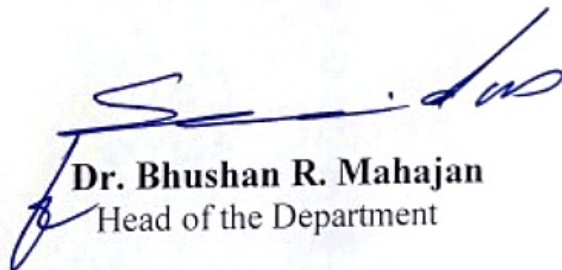
Prachi E. Lade

Dinesh S. Ghate

in partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology in Mechanical Engineering** at J D College of Engineering & Management, Nagpur affiliated to **Dr. Babasaheb Ambedkar Technological University, Raigad** during the academic year 2021-2022.



Prof. Siddharth S. Ghosh
Project Guide



Dr. Bhushan R. Mahajan
Head of the Department

Project Examination held on 08/07/2022



Internal Examiner/ Guide.



External Examiner

**A
PROJECT REPORT
ON
“AN APPROACH TOWARDS QUALITY 4.0
IN HALDEX INDIA PVT. LTD.”**

**Submitted in partial fulfilment of the requirement for the
Award of the degree in Bachelor of Technology in**

MECHANICAL ENGINEERING

Dr. Babasaheb Ambedkar Technological University, Lonere

Under the guidance of

Prof. Gaurav Gohane

Submitted By

Mr. Prince Singh, Mr. Shubham Lonare




**DEPARTMENT OF MECHANICAL ENGINEERING
J D COLLEGE OF ENGINEERING AND MANAGEMENT,
NAGPUR**

Near Hanuman Temple, Borgaon phata, Kalmeshwar road, Nagpur-441501


SESSION 2021 – 2022

CERTIFICATE

This is certify that the report entitled “An Approach towards Quality 4.0 in Haldex India Pvt. Ltd.” is bonafide work of Mr Prince Singh, Mr Shubham Lonare during the academic year 2021-2022 in partial fulfillment of requirement for the award of Degree in Mechanical Engineering Dr. Babasaheb Ambedkar Technological University, Lonere.


Prof. Gaurav Gohane
(Guide)


Prof. Siddharth Ghosh
(Project Coordinator)


Dr. BHUSHAN MAHAJAN
HOD
Mechanical Engineering Dept.




DR S. V. SONEKAR
PRINCIPAL
Principal
J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

**J D COLLEGE OF ENGINEERING AND MANAGEMENT,
NAGPUR**

Near Hanuman Temple, Borgaon phata, Kalmeshwar road, Nagpur-441501

SESSION 2021 – 2022


DECLARATION


This dissertation titled “AN APPROACH TOWARDS QUALITY 4.0 IN HALDEX INDIA PVT. LTD.” is our work carried out under the guidance of Prof. Gaurav Gohane, Department of Mechanical Engineering, J D College of Engineering and Management, Nagpur. This work in the same form or any other form is not submitted by us or anyone else for the award of any Degree.


Projectees

Mr Prince Singh

Mr Shubham Lonare


Project Guide
Prof. Gaurav Gohane


Project Coordinator
Prof. Siddharth Ghosh


HOD, Mechanical Engineering
Dr. Bhushan Mahajan




Principal
Dr. V. S. Sonekar
Principal
College of Engineering & Management
Khandala, Katol Road
Nagpur-441501 III

ACKNOWLEDGEMENT

We express our sincere gratitude for giving us the opportunity to work on the project during our final year of B.E.

We owe our sincerest gratitude to **Dr. S. V. Sonekar**, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

We also express our sincere gratitude towards **Dr. S. V. Sonekar**, Vice Principal and Dean Academics, J D College of Engineering and Management, Nagpur, for continuous support and motivation.

The constant guidance and encouragement received from **Dr. Bhushan Mahajan**, Head of Department of Mechanical Engineering, J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks.

We would like to thank **Prof. Siddharth Ghosh**, Project Coordinator, J D College of Engineering & Management, Nagpur, for providing proper guidelines and continuous efforts towards completing the project.

We would like to express a deep sense of gratitude and thanks profusely to our Guide **Prof. Gaurav Gohane**, Department of Mechanical Engineering, J D College of Engineering & Management, Nagpur. Without his wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of Mechanical Engineering, J D College of Engineering & Management, Nagpur, for their academic support throughout this work.

Prince Singh

Shubham Lonare

Investigation of NANO Coolant on CNC Turning Operation

A Project Report submitted in partial fulfillment of the requirements
for the award of the degree of

**Bachelor of Technology
In
Mechanical Engineering**

Submitted by

**Mr. Suryadev K. Yadav
Mr. Kshitij D. Nikhare
Mr. Akshay G. Munnarwar
Mr. Manish P. Bagde
Mr. Rohit Z. Gaidhane
Mr. Gautam C. Damahe**

**Under the Guidance of
Prof. Suhas A. Rewatkar**



Education to Eternity

DEPARTMENT OF MECHANICAL ENGINEERING

J D College of Engineering and Management, Nagpur-441501

**Affiliated to Dr. Babasaheb Ambedkar Technological University in Lonere, Maharashtra
Year 2021-22**

Investigation of NANO Coolant on CNC Turning Operation

A Project Report submitted in partial fulfillment of the requirements
for the award of the degree of

**Bachelor of Technology
In
Department of Mechanical Engineering**

**Submitted by
Mr. Suryadev K. Yadav
Mr. Kshitij D. Nikhare
Mr. Akshay G. Munnarwar
Mr. Manish P. Bagde
Mr. Rohit Z. Gaidhane
Mr. Gautam C. Damahe**

**Under the Guidance of
Prof. Suhas A. Rewatkar**



Education to Eternity

DEPARTMENT OF MECHANICAL ENGINEERING

J D College of Engineering and Management, Nagpur-441501
Affiliated to Dr. Babasaheb Ambedkar Technological University in Lonere, Maharashtra
Year 2021-22

DECLARATION

We hereby declare that the work presented in this project report entitled, “**Investigation of Nano coolant on CNC Turning Operation**” in the subject **Mechanical Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Prof. Suhas A. Rewatkar**, Department of Mechanical Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date: 08/07/2022

Mr. Suryadev K. Yadav
Mr. Kshitij D. Nikhare
Mr. Akshay G. Munnarwar
Mr. Manish P. Bagde
Mr. Rohit Z. Gaidhane
Mr. Gautam C. Damahe

CERTIFICATE

This is to certify that the project report entitled, "**Investigation of Nano coolant on CNC Turning Operation**" in the subject **Department of Mechanical Engineering** in the faculty of Science and Technology submitted by **Mr. Suryadev K. Yadav, Mr. Kshitij D. Nikhare, Mr. Akshay G. Munnarwar, Manish P. Bagde, Mr. Rohit Z. Gaidhane, Mr. Gautam C. Damahe** to **Dr. Babasaheb Ambedkar Technological University in Lonere, Maharashtra** for the award of the degree of **Bachelor of Technology** is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.



Prof. Suhas A. Rewatkar

Department of Mechanical Engineering

Forwarded to:



Prof. D. A. Yelure

Project Coordinator



Prof. Suhas A. Rewatkar

Head of the Department

Department of Mechanical Engineering

Head of Department

Mechanical Engineering

**J.D. College of Engineering & Management
Nagpur**



Dr. S.V. Sulekar

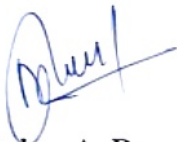
Principal

Principal

**J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501**


CERTIFICATE OF APPROVAL

This is to certify that the Project Report on “Investigation of Nano coolant on CNC Turning Operation” is approved work done by Mr. Suryadev K. Yadav, Mr. Kshitij D. Nikhare, Mr. Akshay G. Munnarwar, Mr. Manish P. Bagde, Mr. Rohit Z. Gaidhane, Mr. Gautam .C. Damahe in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Mechanical Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University in Lonere, Maharashtra during the academic year 2021-2022.



Prof. Suhas A. Rewatkar

Guide



Prof. Suhas A. Rewatkar

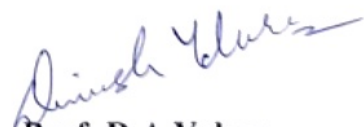
Head of the Department

Investigation of Nano Coolant on CNC Turning operation.

Project Examination held on 08/07/2022.



Prof. Suhas A. Rewatkar
Internal Examiner/ Guide



Prof. D.A. Yelure
External Examiner

PARAMETRIC OPTIMIZATION OF BEARING STEEL TURNING PROCESS UNDER CU AND ZN NANOFLUIDS

A Project Report submitted in partial fulfillment of the requirements
for the award of the degree of

**Bachelor of Technology
In
Mechanical Engineering**

Submitted by

Mr. Jay C. Gajbhiye Ms. Akanksha K. Bachale

Mr. Nehal Kachotiya Ms. Shraddha K. Wasnik

Mr. Yashwant Hajare

Under the Guidance of

Prof. A. A. Junankar



Education to Eternity

MECHANICAL

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University Lonere,

Year 2021-22

DECLARATION

We hereby declare that the work presented in this project report entitled, "**PARAMETRIC OPTIMIZATION OF BEARING STEEL TURNING PROCESS UNDER CU AND ZN NANOFLUIDS**" in the subject **MECHANICAL ENGINEERING** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. A. A. Junankar, **MECHANICAL ENGINEERING**, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date: 07/02/2022

Name of student

Mr. Jay C. Gajbhiye

Ms. Akanksha K. Bachale

Ms. Shraddha K. Wasnik

Mr. Nehal Kachotiya

Mr. Yashwant Hajare

CERTIFICATE

This is to certify that the project report entitled, "**PARAMETRIC OPTIMIZATION OF BEARING STEEL TURNING PROCESS UNDER CU AND ZN NANOFLUIDS**" in the subject **MECHANICAL ENGINEERING** in the faculty of Science and Technology submitted by "**Mr. Jay C. Gajbhiye, Ms. Akanksha K. Bachale, Ms. Shraddha K. Wasnik, Mr. Nehal Kachotiya, Mr. Yashwant Hajare**" to **Dr. Babasaheb Ambedkar Technological University, Lonere**, for the award of the degree of **Bachelor of Technology** is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.



Prof. A. A. Junankar

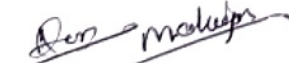
(Department of Mechanical engineering)

Forwarded to:



Prof. S.S. Ghosh

(Project Coordinator)



Dr. B. R. Mhajan

(Head of the Department)

MECHANICAL ENGINEERING

Head of Department
Mechanical Engineering
JD College of Engineering & Management
Nagpur



Dr. S. V. Sonekar

(Principal)

JD COEM



CERTIFICATE OF APPROVAL

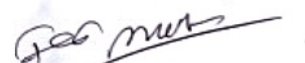
This is to certify that the Project Report on "PARAMETRIC OPTIMIZATION OF BEARING STEEL TURNING PROCESS UNDER CU AND ZN NANOFLUIDS" is approved work done by

Mr. Jay C. Gajbhiye Ms. Akanksha K. Bachale
Ms. Shraddha K. Wasnik Mr. Nehal Kachotiya
Mr. Yashwant Hajare

in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Mechanical Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere during the academic year 2021-2022.



Prof. A. A. Junankar
(Project Guide)



Dr. B. R. Mahajan
(Head of the Department)

08-07-2022

Project Examination held on



Internal Examiner/ Guide



External Examiner

“AMBULANCE HIRING SERVICES”

A Project Report submitted in partial fulfillment of the requirements

For the award of the degree of

Bachelor of Technology

In

Mechanical Engineering

Submitted by

Pravin C. Katre

Aman P. Sukhdeve

Lakhan I. Nale

Chandrasekhar C. Hinge

Rohit D. Lade

Sourabh D. Khopde

Vishal R. Goswami

Ramprasad S. Daheriya

Under the Guidance of

Dr. Bhushan Mahajan



Education to Eternity

Mechanical Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2021-2022

"AMBULANCE HIRING SERVICES"

A Project Report submitted in partial fulfillment of the requirements

For the award of the degree of

Bachelor of Technology

In

Mechanical Engineering

Submitted by

Pravin C. Katre

Lakhan I. Nale

Rohit D. Lade

Vishal R. Goshwami

Aman P. Sukhdeve

Chandrasekhar C. Hinge

Saurabh D. Khopde

Ramprasad S. Daheriya

Under the Guidance of

Dr. Bhushan Mahajan



Education to Eternity

Mechanical Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2021-2022

DECLARATION

We hereby declare that the work presented in this project report entitled, "**Ambulance Hiring Services**" in the subject **Mechanical Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Dr. Bhushan Mahajan**, Department of Mechanical Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma, or certificate course.

Place: Nagpur

Date: _/07/2022

Name of Student/Students

Pravin C. Katre

Lakhan I. Nale

Rohit D. Lade

Vishal R. Goswami

Aman P. Sukhdeve

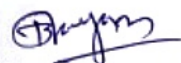
Chandrashekhar C. Hinge

Saurabh D. Khopade

Ramprasad S. Daheriya

CERTIFICATE

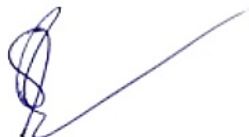
This is to certify that the project report entitled, "**Ambulance Hiring Service**" in the subject **Department of Mechanical Engineering** in the faculty of Science and Technology submitted by **Pravin C. Katre, Lakhan I. Nale, Rohit D. Lade, Vishal R. Goswami, Aman P. Sukhdeve, Chandrashekhar C. Hinge, Saurabh D. Khopde, Ramprasad S. Daheriya** for the award of the degree of **Bachelor of Technology** is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in whole or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.



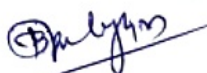
Dr. Bhushan Mahajan

Department Of Mechanical Engineering

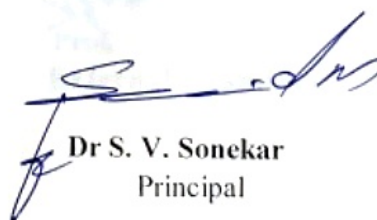
Forwarded To:



Prof. Siddharth Ghosh
Project Coordinator



Dr. Bhushan Mahajan
Head of the Department
Mechanical Engineering



Dr S. V. Sonekar
Principal

Principal
J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

DEVELOPMENT OF SOLAR STILL FOR DISTILLATION OF DOMESTIC WASTE WATER

A Project Report submitted in partial fulfillment of the requirements

For the award of the degree of

Bachelor of Technology

In

Mechanical Engineering

Submitted by

Aman sahu

Nikita Mahajan

Ashish Shende

Prakash Verma

Hitesh Kumbhare

Digambar Dongarwar

Under the Guidance of

Prof. Dharmesh Agrawal.



Education to Eternity

Department of Mechanical Engineering

J D College Of Engineering And Management Nagpur-441501

Affiliated to Dr Babasaheb Technological University, Lonere

Year 2021-2022

DECLARATION

We hereby declare that the work presented in this project report entitled, "**Development Of Solar Still for Distillation Of Domestic Waste Water**" in the subject **Mechanical Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Prof. Dharmesh Agrawal**, Department Of Mechanical Engineering , J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date: 08/07/22

Name of Students:

Aman Sahu

Nikita Mahajan

Ashish Shende

Prakash Vema

Hitesh Kumbhare

Digambar Dongarwar


CERTIFICATE

This is to certify that the project report entitled, **Development of solar still for Distillation of domestic waste water** in the subject **Mechanical Engineering** in the faculty of Science and Technology submitted by **Aman Sahu, Nikita Mahajan, Ashish Shende, Prakash Verma, Hitesh Kumbhare, Digambar Dongarwar.** to **Dr. Babasaheb Ambedkar Technological University , Lonere** for the award of the degree of **Bachelor of Technology** is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.


Forwarded to:




Prof. S.S Ghosh
(Project coordinator)



Prof. Dharmesh Agrawal
(Mechanical Engineering
Department)



Dr. Bhushan Mahajan
(Head of the Department
Mechanical Engineering)



Dr. S.V Sonekar
(Off Principal
Principal
JD College Of Engineering and
Management Nagpur)
Khandala, Katol Road
Nagpur-441501

EXPERIMENTAL INVESTIGATION OF HEAT TRANSFER CHARACTERISTICS OF HELICAL COIL FOR LAMINAR FLOW

A Project Report submitted in partial fulfillment of the requirements
For the award of the degree of
Bachelor of Technology

In
Mechanical
Engineering Submitted

by

Vivek V. Thakur

Naman S. Nag

Susobhan S. Maity

Durgesh D. Meshram

Rohit R. Mahore

Suraj R. Meshram

Under the Guidance
of
Prof. J.S. Pachbhai



Education to Eternity

Department of Mechanical Engineering
J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University,

Lonere Year 2021-22

EXPERIMENTAL INVESTIGATION OF HEAT TRANSFER CHARACTERISTICS OF HELICAL COIL FOR LAMINAR FLOW

A Project Report submitted in partial fulfillment of the requirements
For the award of the degree of

Bachelor of Technology

In

Mechanical Engineering

Submitted by

**Vivek V. Thakur
Durgesh D. Meshram**

**Naman S. Nag
Rohit R. Mahore**

**Susobhan S. Maity
Suraj R. Meshram**

Under the Guidance

of

Prof. J.S. Pachbhai



Education to Eternity

Department of Mechanical Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2021-22

DECLARATION

We hereby declare that the work presented in this project report entitled, **“EXPERIMENTAL INVESTIGATION OF HEAT TRANSFER CHARACTERISTICS OF HELICAL COIL FOR LAMINAR FLOW”** in the subject **Mechanical Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Prof. J.S. Pachbhai**, Department of Mechanical Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date: 08/07/2022

Name of Students

Naman S. Nag

Vivek V. Thakur

Susobhan S. Maity

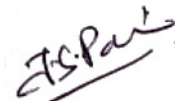
Durgesh D. Meshram

Rohit R. Mahore

Suraj R. Meshram

CERTIFICATE

This is to certify that the project report entitled, **"EXPERIMENTAL INVESTIGATION OF HEAT TRANSFER CHARACTERISTICS OF HELICAL COIL FOR LAMINAR FLOW"** in the subject **Department of Mechanical Engineering** in the faculty of Science and Technology submitted by **Naman S. Nag, Vivek V. Thakur, Durgesh D. Meshram, Susobhan S. Maity, Rohit R. Mahore, Suraj R. Meshram** to **Dr. Babasaheb Ambedkar Technological University, Lonere** for the award of the degree of **Bachelor of Technology** is a Bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.



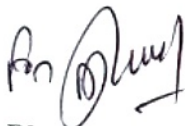
Prof. J.S. Pachbahi.

Department of Mechanical Engineering

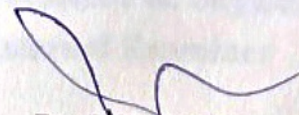
Forwarded to:



Prof. S. S. Ghosh
Project Coordinator



Dr. Bhushan R. Mahajan
Head of the Department
Department of Mechanical Engineering




Dr. S. V. Sonekar
Principal

Principal

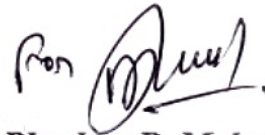
J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on “**EXPERIMENTAL INVESTIGATION OF HEAT TRANSFER CHARACTERISTICS OF HELICAL COIL FOR LAMINAR FLOW**” approved work done by **Naman S. Nag, Vivek V. Thakur, Durgesh D. Meshram, Susobhan S. Maity, Rohit R. Mahore, Suraj R. Meshram** in partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology in Mechanical Engineering** at **JD College of Engineering & Management, Nagpur** affiliated to **Dr. Babasaheb Ambedkar Technological University, Lonere** during the academic year 2020-2021.



Prof. J. S. Pachbhai
Guide

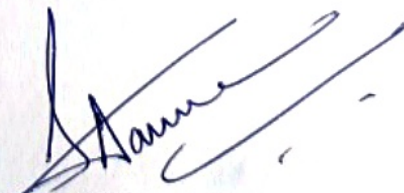


Dr. Bhushan R. Mahajan
Head of the Department

Project Examination held on 8 July 2022



Prof. J. S. Pachbhai
Internal Examiner/ Guide



Prof. Aqmir R. Sayed
External Examiner

DEVELOPMENT OF SOLAR STILL FOR DISTILLATION OF DOMESTIC WASTE WATER

A Project Report submitted in partial fulfillment of the requirements

For the award of the degree of

Bachelor of Technology

In

Mechanical Engineering

Submitted by

Aman sahu

Nikita Mahajan

Ashish Shende

Prakash Verma

Hitesh Kumbhare

Digambar Dongarwar

Under the Guidance of

Prof. Dharmesh Agrawal.



Education to Eternity

Department of Mechanical Engineering

J D College Of Engineering And Management Nagpur-441501

Affiliated to Dr Babasaheb Technological University, Lonere

Year 2021-2022


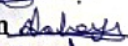




DECLARATION

We hereby declare that the work presented in this project report entitled, "**Development Of Solar Still for Distillation Of Domestic Waste Water**" in the subject **Mechanical Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Prof. Dharmesh Agrawal**, Department Of Mechanical Engineering , J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date: 08/07/22

Name of Students:

Aman Sahu 
Nikita Mahajan 
Ashish Shende 
Prakash Verma 
Hitesh Kumbhare 
Digambar Dongarwar 


CERTIFICATE

This is to certify that the project report entitled, **Development of solar still for Distillation of domestic waste water** in the subject **Mechanical Engineering** in the faculty of Science and Technology submitted by **Aman Sahu, Nikita Mahajan, Ashish Shende, Prakash Verma, Hitesh Kumbhare, Digambar Dongarwar.** to **Dr. Babasaheb Ambedkar Technological University , Lonere** for the award of the degree of **Bachelor of Technology** is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Forwarded to:



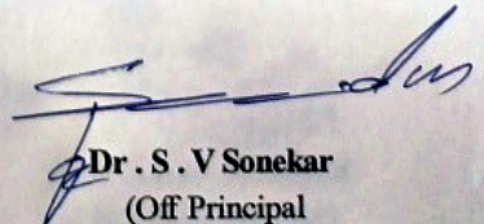
Prof. S.S Ghosh
(Project coordinator)



Prof. Dharmesh Agrawal
(Mechanical Engineering
Department)



Dr. Bhushan Mahajan
(Head of the Department
Mechanical Engineering)



Dr . S . V Sonekar
(Off Principal

Principal
JD College of Engineering and
J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on **DEVELOPMENT OF SOLAR STILL FOR DISTILLATION OF DOMESTIC WASTE WATER** is approved work done by **Aman Sahu, Nikita Mahajan, Ashish Shende, Hitesh Kumbhare, Prakash Verma, Digambar Dongarwar** In partial fulfillment of the requirements for the award of the degree of **Bachelor of Technological in Mechanical Engineering** at **JD College of Engineering & Management, Nagpur** affiliated to **Dr. Babasaheb Ambedkar Technological University, Lonere** during the academic year 2021 -2022 .



Prof. Dharmesh Agrawal
(Guide)

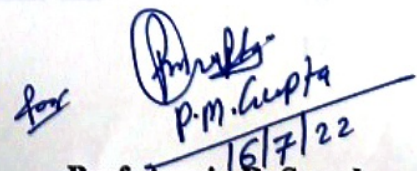


Dr. Bhushan Mahajan
(Head of the Department)

Project Examination held on 08/07/22



Prof. Dharmesh Agrawal
(Internal Examiner/ Guide)



for P.M. Gupta
16/7/22

Prof. Aamir R. Sayed
(External Examiner)

DUCTILE CAST IRON 350/4 BY USING SMAW

A Project Report submitted in partial fulfillment of the requirements for the award of

the degree of

Bachelor of Technology

In

Mechanical Engineering

Submitted by

Gaurao Dalit Badge

Vaibhav Ramesh Adwe

Rashtrapal Chandrabhan Humane

Ashish Yograj Ganvir

Raj Umaji Sonkusare

Under the Guidance

Of

Prof. Aamir Sayyed



Education to Eternity

Mechanical Engineering

J D College of Engineering and Management, Nagpur-441501

Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad

Year 2021-22

DECLARATION

We hereby declare that project report entitled, **“Ductile Cast Iron 350/4 By Using SMAW”** in the subject **Mechanical Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Dr./Prof. Aamir Sayyed**, Name of Department, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: *Nagpur.*

Date: *07/08/2022*

Name of Student/Students

1-Gaurao Dalit Badge (51)

2-Vaibhav Ramesh Adwe (24)


3-Ashish Yograj Ganvir (104)

4-Rashtrapal Chandrabhan Humane (42)


5-Raj Umaji Sonkusare (31)

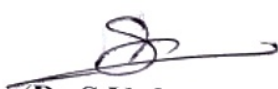
CERTIFICATE

This is to certify that the project report entitled, “**Ductile Cast Iron 350/4 By Using SMAW**” in the subject **Mechanical Engineering** in the faculty of Science and Technology submitted by **1-Gaurao Dalit Badge (51), 2-Vaibhav Ramesh Adwe (24), 3-Ashish Yograj Ganvir (104), 4-Rashtrapal Chandrabhan Humane (42), 5-Raj Umaji Sonkusare (31)** to **Dr. Babasaheb Ambedkar Technological University, loner, Raigad** for the award of the degree of **Bachelor of Technology** is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.


(Prof. Aamir Sayyed)
Mechanical Engineering
Forwarded to


(Prof. Siddharth S. Ghosh)
Project Coordinator


(Dr. Bhushan. R. Mahajan)
Head of the Department Mechanical Engineering

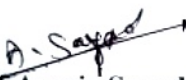

(Dr.S.V. Sonekar)
Principal

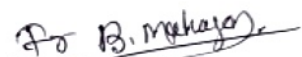
Head of Department
Mechanical Engineering
JD College of Engineering & Management
Nagpur




CERTIFICATE OF APPROVAL


This is to certify that the Project Report on “**Ductile Cast Iron 350/4 By Using SMAW**” is approved work done by **Rashtrapal Chandrabhan Humane** in partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology in Mechanical Engineering** at J D College of Engineering & Management, Nagpur affiliated to **Dr. Babasaheb Ambedkar Technological University, lonere, Raigad** during the academic year 2021_-2022


Prof. Aamir Sayed
Guide


Dr. Bhushan R. Mahajan
Head of the Department

Project Examination held on 07/08/2022


Internal Examiner/ Guide
Prof. Aamir Sayyed


External Examiner
Prof. P. M. Gupta
Prof. D. A. Agarwal

Investigation of NANO Coolant on CNC Turning Operation

A Project Report submitted in partial fulfillment of the requirements
for the award of the degree of

**Bachelor of Technology
In
Mechanical Engineering**

Submitted by

**Mr. Suryadev K. Yadav
Mr. Kshitij D. Nikhare
Mr. Akshay G. Munnarwar
Mr. Manish P. Bagde
Mr. Rohit Z. Gaidhane
Mr. Gautam C. Damahe**

**Under the Guidance of
Prof. Suhas A. Rewatkar**



Education to Eternity

DEPARTMENT OF MECHANICAL ENGINEERING

J D College of Engineering and Management, Nagpur-441501

**Affiliated to Dr. Babasaheb Ambedkar Technological University in Lonere, Maharashtra
Year 2021-22**

Investigation of NANO Coolant on CNC Turning Operation

A Project Report submitted in partial fulfillment of the requirements
for the award of the degree of

**Bachelor of Technology
In
Department of Mechanical Engineering**

**Submitted by
Mr. Suryadev K. Yadav
Mr. Kshitij D. Nikhare
Mr. Akshay G. Munnarwar
Mr. Manish P. Bagde
Mr. Rohit Z. Gaidhane
Mr. Gautam C. Damahe**

**Under the Guidance of
Prof. Suhas A. Rewatkar**



Education to Eternity

DEPARTMENT OF MECHANICAL ENGINEERING

J D College of Engineering and Management, Nagpur-441501

**Affiliated to Dr. Babasaheb Ambedkar Technological University in Lonere, Maharashtra
Year 2021-22**

DECLARATION

We hereby declare that the work presented in this project report entitled, “**Investigation of Nano coolant on CNC Turning Operation**” in the subject **Mechanical Engineering** in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Prof. Suhas A. Rewatkar**, Department of Mechanical Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date: 08/07/2022

Mr. Suryadev K. Yadav
Mr. Kshitij D. Nikhare
Mr. Akshay G. Munnarwar
Mr. Manish P. Bagde
Mr. Rohit Z. Gaidhane
Mr. Gautam C. Damahe

CERTIFICATE

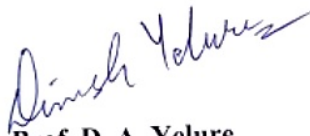
This is to certify that the project report entitled, "**Investigation of Nano coolant on CNC Turning Operation**" in the subject **Department of Mechanical Engineering** in the faculty of Science and Technology submitted by **Mr. Suryadev K. Yadav, Mr. Kshitij D. Nikhare, Mr. Akshay G. Munnarwar, Manish P. Bagde, Mr. Rohit Z. Gaidhane, Mr. Gautam C. Damahe** to **Dr. Babasaheb Ambedkar Technological University in Lonere, Maharashtra** for the award of the degree of **Bachelor of Technology** is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.



Prof. Suhas A. Rewatkar

Department of Mechanical Engineering

Forwarded to:



Prof. D. A. Yelure

Project Coordinator



Prof. Suhas A. Rewatkar

Head of the Department

Department of Mechanical Engineering

Head of Department
Mechanical Engineering
J.D. College of Engineering & Management
Nagpur



Dr. S.V. Sonekar

Principal

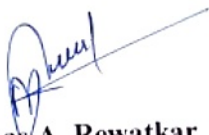
Principal

J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501



CERTIFICATE OF APPROVAL

This is to certify that the Project Report on “Investigation of Nano coolant on CNC Turning Operation” is approved work done by Mr. Suryadev K. Yadav, Mr. Kshitij D. Nikhare, Mr. Akshay G. Munnarwar, Mr. Manish P. Bagde, Mr. Rohit Z. Gaidhane, Mr. Gautam .C. Damahe in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Mechanical Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University in Lonere, Maharashtra during the academic year 2021-2022.



Prof. Suhas A. Rewatkar

Guide



Prof. Suhas A. Rewatkar

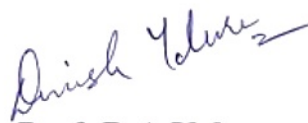
Head of the Department

Investigation of Nano Coolant on CNC Turning operations.

Project Examination held on 08/07/2022.



Prof. Suhas A. Rewatkar
Internal Examiner/ Guide



Prof. D.A Yelure
External Examiner