QnM 1.3.2

Percentage of students undertaking project work/field work/ internships (Data for the latest completed academic year)

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Criterion 1

QnM 1.3.2 Project work/field work/ Internships

1.3.2.1. Number of students undertaking project work/field work / internships: 139

$$Percentage = \frac{\text{Number of students undertaking project work/ field work / internships}}{\text{Total numberof students during the latest completed academic year}} \times 100$$

$$\underline{\boldsymbol{Percentage = 69.1\%}}$$

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Project Work: number of students = 57

Branch	YEAR	Name	Student Enrollment Number	Project Title	project work/field work/ internships
CSE	4	VIJAY RELWANI	AS1030	Ghumketu Arduino-based Rover	project work
CSE	4	RAHUL ANISH PRASAD	AS4253	Ghumketu Arduino-based Rover	project work
CSE	4	DEVIKA THAKRE	BD7595	Face Emotion Recognation	project work
CSE	4	CHANCHALA YADAV	BD9002	Online Food Ordering System	project work
CSE	4	TIKESHWARI	BD9205	Online Food Ordering System	project work
CSE	4	VANADA YADAV	BD9207	Online Food Ordering System	project work
CSE	4	VAISHALI	BE1215	Online Food Ordering System	project work
CSE	4	LAXMI NIRMALKAR	BF2449	College Enquiry Chatbot	project work
CSE	4	ARIMA TOPPO	BI1467	College Enquiry Chatbot	project work
CSE	4	ARTI XALXO	BI1468	Virtual Mouse using Hand Recognition	project work
CSE	4	GULNAJ ANSARI	BI1469	Face Emotion Recognation	project work
CSE	4	JEEVAN BARA	BI1470	Face recognation E-attendance System	project work
CSE	4	POONAM LAKRA	BI1471	Virtual Mouse using Hand Recognition	project work
CSE	4	ROSHAN KUMAR SAHU	BI1472	Face recognation E-attendance System	project work
CSE	4	SHILANATH PRATAP SINGH	BI1473	Ghumketu Arduino-based Rover	project work

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CSE	4	SHIVAM PANDEY	BI1474	Face recognation E-attendance System	project work
CSE	4	VIBHA	BI1475	Face Emotion Recognation	project work
CSE	4	VINAY MINJ	BI1476	Face recognation E-attendance System	project work
ELE	4	SUGAM BAKSHI	AO5077	Electric Vehicle Battery Protection Systems	project work
ELE	4	DUJENDRA KUMAR SAHU	AQ1999	PLOTTING THE SPEED – TORQUE CHARACTERISTICS OF 3 PHASE INDUCTION MOTOR USING MATLAB SIMULINK	project work
ELE	4	KAMLESH DAMAHE	AS1009	PLOTTING THE SPEED – TORQUE CHARACTERISTICS OF 3 PHASE INDUCTION MOTOR USING MATLAB SIMULINK	project work
ELE	4	JAYANT KUMAR	BB7773	SUNLIGHT TRACKING SOLAR PANEL USING ARDUINO	project work
ELE	4	DEEPAK CHAUDHARY	BD0339	PLOTTING THE SPEED – TORQUE CHARACTERISTICS OF 3 PHASE INDUCTION MOTOR USING MATLAB SIMULINK	project work
ELE	4	SHIVENDRA PANIGRAHI	BF1033	PLOTTING THE SPEED – TORQUE CHARACTERISTICS OF 3 PHASE INDUCTION MOTOR USING MATLAB SIMULINK	project work
ELE	4	MITHLESH	BF5533	IOT based Home Automation System	project work
ELE	4	LEO KOSHY VARGHESE	BI1503	Electric Vehicle Battery Protection Systems	project work

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ELE	4	PAWAN KUMAR VISHWAKARMA	BI1504	IOT based Home Automation System	project work
ELE	4	ROVINS XESS	BI1505	Electric Vehicle Battery Protection Systems	project work
ELE	4	VEDINA XAXA		Electric Vehicle Battery Protection Systems	project work
ELE	4	KRISHNAKANT SAHU	BJ0422	IOT based Home Automation System	project work
ELE	4	RAJKUMAR	BJ0423	IOT based Home Automation System	project work
MECH	4	SEEYON KUMAR	AS1140	Design and Facrication of groundnut shelling machine	project work
MECH	4	DEEPAK KUMAR	AS4177	Design and Facrication of groundnut shelling machine	project work
MECH	4	HIMANSHU TAMRAKAR	BD9145	Design and Facrication of groundnut shelling machine	project work
MECH	4	AKHIL ANU ABRAHAM	BI1502	Design and Fabrication of belt type iol skimmer	project work
MECH	4	RAHUL KUMAR BRAMHANKAR	BI1509	Design and Fabracation of portable padle operated pneumatic lifting jack for LVM	project work
MECH	4	ROBINS JACOB JOHN	BI1510	Design of Multifunctional ladder chair	project work
MECH	4	ROSHAN ROY	BI1511	Design and Fabrication of belt type iol skimmer	project work
MECH	4	SAHIL HUSSAIN	BI1512	Design and Fabracation of portable padle operated pneumatic lifting jack for LVM	project work
MECH	4	SHARON SURYAVANSHI	BI1513	Design and Fabrication of belt type iol skimmer	project work
MECH	4	SHIVNATH GOTA	BI1514	Design of Multifunctional ladder chair	project work

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MECH	4	SHREYANSH LAL	BI1515	Design and Fabracation of portable padle operated pneumatic lifting jack for LVM	project work
MTECH CAD	2	RISHABH TAMRAKAR	AM9527	Finite Element Analysis and Topology Optimization of Upper Arm of Double Wishbone Suspension	Project Work
MTECH CAD	2	BHUPESH SONKAR	AP6693	Enhancing the Performance of Turbine Blades through CAD-Based Design Optimization and Finite Element Analysis	Project Work
MTECH CAD	2	ROBIN BABU	CB3362	Design Optimization of Adaptive MacPherson Strut using Comparative Analysis of Particle Swarm and Genetic Algorithm Techniques with ANSYS Simulation	Project Work
MTECH CAD	2	JUSTIN CHACKO PULICKTHARAYIL	CB3363	Optimization of Helical Gear Performance for Energy Efficiency Improved	Project Work
MTECH CAD	2	RUPESH KUMAR SINGH	CB3364	Optimal Design of Pressure Vessels for Enhanced Boiler Performance	Project Work
MTECH HV	2	PRAVEEN KUMAR GAVEL	AM9642	Energy Audit as a tool for improving system efficiency in Industrial sector	Project Work
MTECH HV	2	AKASH KUMAR YADAV	AM9670	Wireless Charger using Solar Panel	Project Work
MTECH HV	2	BHUPESH KASHYAP	AO4112	Energy Auditing on Distribution System	Project Work
MTECH HV	2	SHIVA JI	AO8522	Continues Online PD monitoring for HV cables	Project Work

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MTECH HV	2	NIDHI MINJ	AQ2778	Energy audit of Highly efficient Transformer	Project Work
MTECH HV	2	NIKITA TIGGA	BA6819	Energy Audit of Pump Set	Project Work
MTECH HV	2	AATIFA FATIMA	CB3359	Dynamics and Stability of meshed multi terminal HVDC networks	Project Work
MTECH HV	2	MECHELLE AKANKSHA GEORGE	CB3360	Energy Audit of Commercial Building	Project Work
MTECH HV	2	A SATISH KUMAR	CB3361	Online MVAr control in High Voltage transmission system	Project Work
MTECH NANO	2	SANDHYA MINJ	BD1750	STUDIES OF STRUCTURAL, MORPHOLOGICAL AND OPTICAL PROPERTIES OF CALCIUM OXIDE NANOPARTICLES	Project Work

Internship: number of students = 82

Branch	YEAR	Name	Student Enrollment Number	Project Title	project work/field work/ internships
ELE	2	NIKITA	BF5803	Swati Engineering works	Internship
MECH	2	SHREYANSH EKKA	CA7681	Swati Engineering works	Internship
MECH	2	ATUL HIRWANI	CA7684	Swati Engineering works	Internship
MECH	2	DINESH KUMAR YADAV	CA7685	Swati Engineering works	Internship
MECH	2	BHUPENDRA KUMAR SEN	CA7686	Swati Engineering works	Internship
CSE	3	ABHISHEK KUMAR	BK3998	Skillup by Simplilearn	Internship

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CSE	3	AALOK KUMAR MUNDA	BK4001	Skillup by Simplilearn	Internship
CSE	3	ALVIN SAM JACOB	BK4003	Skillup by Simplilearn	Internship
CSE	3	DURGA SONI	BK4007	Sensible Computer Software Limited	Internship
CSE	3	SANDEEP SIKDAR	BK4025	Sensible Computer Software Limited	Internship
CSE	3	NUTAN	BK4028	Sensible Computer Software Limited	Internship
CSE	3	SULTANA KHATUN	BK4034	Sensible Computer Software Limited	Internship
CSE	3	AAKASH KASHYAP	BK4019	Seed IT solution	Internship
CSE	3	NAVYA KUMAR RAM	BK4029	Seed IT solution	Internship
CSE	2	APRATA SONA	BF6830	Scholiverse Educare Provate Limited	Internship
CSE	3	PREETI JANGADE	BD7592	Scalar	Internship
CSE	3	NIDHI	BE0317	Scalar	Internship
CSE	3	AAYUSHI	BK4021	Scalar	Internship
CSE	3	ARYAN GUPTA	BK4022	Scalar	Internship
CSE	3	AMAN NIKUNJ	BK4046	Scalar	Internship
ELE	3	VIVEK	AM3100	S K Associates Bhilai	Internship
ELE	3	KAMLESHWAR	AP9805	S K Associates Bhilai	Internship
ELE	3	RAKESH KUMAR	AP9934	S K Associates Bhilai	Internship
ELE	3	DEEPAK KUMAR	BF5577	S K Associates Bhilai	Internship
ELE	2	SATYAM BHARTI	BH8915	S K Associates Bhilai	Internship

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ELE	2	SHIWANI SONWANI	BH8981	S K Associates Bhilai	Internship
ELE	2	BHARTI JENA	BI0571	S K Associates Bhilai	Internship
ELE	2	TARUN KUMAR	CA7676	S K Associates Bhilai	Internship
ELE	3	VISHNU RAM	BF6768	Rukhmani Electrical and Components Pvt Ltd	Internship
ELE	3	TRIBHUWAN	BD388	Project based Training at Swati Engg Works Bhilai	Internship
ELE	3	HARISH KUMAR	BD417	Project based Training at Swati Engg Works Bhilai	Internship
ELE	3	PREMKUMAR YADAV	BK3995	Project based Training at Swati Engg Works Bhilai	Internship
ELE	3	SAHIL SONI	CA0711	Project based Training at Swati Engg Works Bhilai	Internship
ELE	2	RAGINI RATHORE	CA7675	Power Generation Training Institute Korba	Internship
ELE	2	HIMANSHU SHARMA	AS1502	Paramount Sales	Internship
ET	2	AVINASH EKKA	CA7680	MSME Technology Centre Durg	Internship
CSE	3	YOGESH KUMAR SEN	BK4009	Logixhunt	Internship
CSE	3	MANASH DEWANGAN	BK4015	Logixhunt	Internship
CSE	3	RAHUL SINGH	BK4026	Logixhunt	Internship
CSE	2	ALISHA PARVIN	CA7663	Logixhunt	Internship
CSE	2	NITISH KUMAR SHARMA	CA7665	Logixhunt	Internship
CSE	2	SouRABH CHOUDHARY	CA7678	Logixhunt	Internship
CSE	2	SOMIYA C KURIAN	CA7662	Intershall Trainings	Internship
CSE	2	SHIVAM KUMAR	CA7667	Intershall Trainings	Internship

CSE	2	SHOBIT KUMAR	CA7679	Intershall Trainings	Internship
CSE	3	TARUN KUMAR SINHA	BB8311	Greenbook media and Apps Pvt Limited	Internship
CSE	3	KARAN KUMAR BISEN	BB8320	Greenbook media and Apps Pvt Limited	Internship
ET	3	AMIT KUMAR	BB8300	Great Learning	Internship
CSE	3	RAJNISH KUMAR	BK4014	DigitalShakha	Internship
MECH	3	RAJESH KUMAR SHRIVASTAVA	AS4184	Deltiin India Tech Pvt Ltd	Internship
MECH	3	ASHISH PRASAD	BF5763	Deltiin India Tech Pvt Ltd	Internship
MECH	3	HIMANSHU SAHU	BF8700	Deltiin India Tech Pvt Ltd	Internship
MECH	3	G RAMU	BG4108	Deltiin India Tech Pvt Ltd	Internship
MECH	3	VIKKY KUMAR	BK4040	Deltiin India Tech Pvt Ltd	Internship
MECH	3	ROBIN ROY	BK4045	Deltiin India Tech Pvt Ltd	Internship
MECH	3	MANOHAR KUMAR	BK4048	Deltiin India Tech Pvt Ltd	Internship
MECH	2	Prashant Yadav	AS1109	D C Constructions	Internship
ELE	2	HARBHAJAN BAGHEL	CA7677	CSPDCL Chhattisgarh	Internship
CSE	3	VIKAS SINGH YADAV	CA0710	Cognitive Class	Internship
MECH	3	D JOHN VICTOR	AR9282	Bio-degradable Bags	Internship
MECH	3	DAULAT	BH1059	Bio-degradable Bags	Internship
MECH	3	SHIVAM PRASAD	BK4043	Bio-degradable Bags	Internship
MECH	3	MAYUR YADAV	BK4044	Bio-degradable Bags	Internship

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MECH	2	DHEERAJ KUMAR SORI	BE1777	Bio-degradable Bags	Internship
MECH	2	AMIT SAHU	BF8691	Bio-degradable Bags	Internship
MECH	2	POONAM	BF8692	Bio-degradable Bags	Internship
MECH	2	SNEHA MOTWANI	BI0587	Bio-degradable Bags	Internship
CSE	3	JAISLEEN SAHOTA	BK4005	Bhilai Steel Plan Bhilai	Internship
CSE	2	RICHA JHA	CA7668	Bharat Intern	Internship
CSE	2	RAHUL KUMAR	CA7670	Bharat Intern	Internship
ELE	2	DEWANSHU GHATODE	BH9501	Audit Tech	Internship
ELE	2	THANESH GAUR	BH9516	Audit Tech	Internship
ELE	3	VAIBHAV LAKSHMI DUBEY	BE1010	222/123/33 KV Substation Equipments	Internship
CSE	3	SAKET KUMAR	BK3997	Skillup by Simplilearn	Internship
CSE	3	SUKHJEET SINGH HANS	BK4030	DigitalShakha	Internship
MECH	3	HARSAD	BG3914	Bio-degradable Bags	Internship
CSE	2	RISHABH KUMAR SINGH	BG4893	Intershall Trainings	Internship
CSE	2	A RAHUL	BH9723	Intershall Trainings	Internship
CSE	2	ABHINAV GARDIA	BH9725	Bharat Intern	Internship
CSE	2	PRIYANSHU KUMAR	CA7672	Intershall Trainings	Internship
CSE	2	AMIT KUMAR SAO	CA7687	Udemy	Internship
MECH	2	ALAKH NIRANJAN	CB5576	Bio-degradable Bags	Internship

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PROJECT REPORTS

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Criterion 1

QnM 1.3.2 Project work/field work/ Internships

CHRISTIAN COLLEGE OF ENGINEERING & TECHNOLOGY BHILAI

BACHELOR OF TECHNOLOGY

In

Computer Science & Engineering

PROJECT PHASE II

"*College Enquiry Chatbot*"

(B.Tech 8th Semester)

Submitted By:

NAME OF STUDENT:	ROLL No.	ENROLLMENT NO.
Arima Toppo	301102219003	BI1467
Laxmi Nirmalkar	301102218018	BI2469

Guide by: Lincy Mendonza

Session:2019-2023

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

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PREFACE

Project Phase II is an integral part of B. Tech & each and every student has to create a Project Phase II in 8th Semester while studying in the Institute.

This record is concerned about our Project Phase II practical in 8th Semester i.e. final year of B. Tech course.

We have taken our Project Phase II practical on "College Enquiry Chatbot". During this Project Phase II, we got an opportunity to learn many new things about technology & its practical implementation. This Project Phase II prove to be a milestone in our knowledge of present environment. Every say & every moment was an experience in itself, an experience which a theoretical study never provide.

DECLARATION BY THE CANDIDATE

I the undersigned solemnly declare that the report of the thesis work entitled "College Enquiry Chatbot" , is based on my own work carried out during the course of my study under the supervision of Lincy Mendonza.

I assert that the statements made and conclusions drawn are an outcome of the project work. I further declare that to the best of my knowledge and belief that the report does not contain any part of any work which has been submitted for the award of any other degree/diploma/certificate in this University/deemed University of India or any other country. All helps received and citations used for the preparation of the thesis have been duly acknowledged.

Laxmi Nirmalkar

(Roll no.-301102218018)

Arima Toppo

(Roll no.-301102219003)

Place: Bhilai

Date:08/06/2023

This is to certify that above statement made by the candidate is correct to the best of our knowledge.

Approved By-

Lincy

Signature of the Supervisor

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Date: 2023.11.05 09:40:29 +05'30'

CERTIFICATE OF SUPERVISOR

This is to certify that the report of the thesis entitled "College Enquiry Chatbot" is a record of bonafide research work carried out by:

Name: Laxmi Nirmalkar Roll No: 301102218018 Enrollment No.: BF2449

Name: Arima Toppo Roll No: 301102219003 Enrollment No.:BI1467

Under my guidance and supervision for the award of Degree of Bachelors of Technology in the faculty of Chhattisgarh Swami Vivekanand Technical University, Bhilai (C.G.), India. To the best of my knowledge and belief the Project Report

- Embodies the work of the candidate him/herself,
- Has duly been completed,
- Fulfils the requirement of the Ordinance relating to the degree of the B.Tech University
- Is up to the desired standard both in respect of contents and language for being referred to the examiners.

Signature of the Supervisor

Forwarded to Chhattisgarh Swami Vivekanand Technical University

Bhilai

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Date: 2023.11.05 09:40:53 +05'30'

CERTIFICATE BY THE EXAMINERS

The Project Phase II entitled "College Enquiry Chatbot" Submitted by:

Name: Laxmi Nirmalkar Roll No: 301102218018 Enrollment No.: BF2449

Name: Arima Toppo Roll No: 301102219003 Enrollment No.:BI1467

Has been examined by the undersigned as a part of the examination and is hereby recommended for the award of the degree of Bachelors of Technology in the faculty of Chhattisgarh Swami Vivekanand Technical University, Bhilai.

Internal Examiner
Date: 8/6/2023

External Examiner
Date: 06/06/2023

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ACKNOWLEDGEMENT

This is one of the best moments of my B.Tech program to publicly acknowledgment those who have contributed in many different ways to make my success a part of their own. The completion of the Project Phase II depends upon the co-operation, coordination and combined effects of several resources of knowledge energy.

I express my sincere gratitude to ...Dr.Dipali Soren.....worthy Principle for providing an opportunity to undergo Project Phase II in Parking Management System Using ANPR.

I am especially thankful.....Dr.Archana Chaodhari.. , HOD Department of computer science and engineernig..... for her kind cooperation and rendering me all possible facilities.

I heartily thanks to .....Mrs. Lincy Mendonza..... (Teacher Guide), who have supported in Project Phsae II, faculties of Department of Computer Science & Engineering, for accepting me to work under their Valuable Guidance, Closely Supervised this work over the past few months and offering many innovative ideas and helpful suggestions, which led to the successful completion of this dissertation work.

I am thankful to all staff members of the CSE department and my friends for their timely help co-operation and suggestion during my project work. Lastly but not the least, I must express Thanks to my family, without their moral support it was impossible for me to complete this Project Phase II work.

Name of Candidate :

Laxmi Nirmalkar

Arima Toppo

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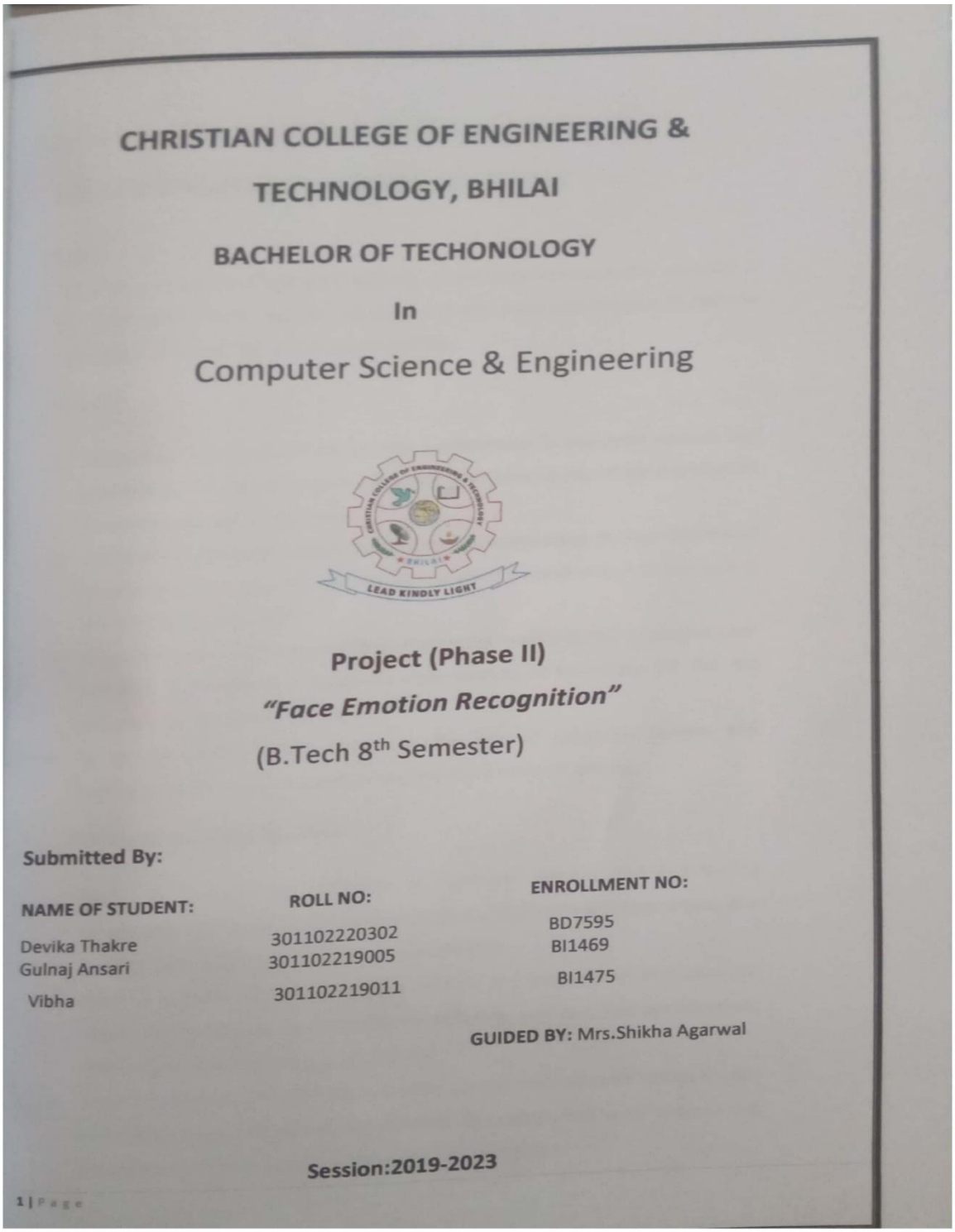
ABSTRACT

In the earlier days, students had to visit the college to enquire about details like courses, fee structure, admission process and other information\'s about the college, which is a tiresome and long process . This is where we thought of using an intelligent bot delivering the information. College Enquiry Chatbot is a simple php web application which aims to provide the information regarding college asked by the user.

Criterion 1

QnM 1.3.2 Project work/field work/ Internships



CHRISTIAN COLLEGE OF ENGINEERING &

TECHNOLOGY, BHILAI

BACHELOR OF TECHONOLOGY

In

Computer Science & Engineering

LEAD KINDLY LIGHT

Project (Phase II)

"Face Emotion Recognition"

(B.Tech 8th Semester)

Submitted By:

NAME OF STUDENT:	ROLL NO:	ENROLLMENT NO:
Devika Thakre	301102220302	BD7595
Gulnaj Ansari	301102219005	BI1469
Vibha	301102219011	BI1475

GUIDED BY: Mrs.Shikha Agarwal

Session:2019-2023

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Criterion 1

QnM 1.3.2 Project work/field work/ Internships

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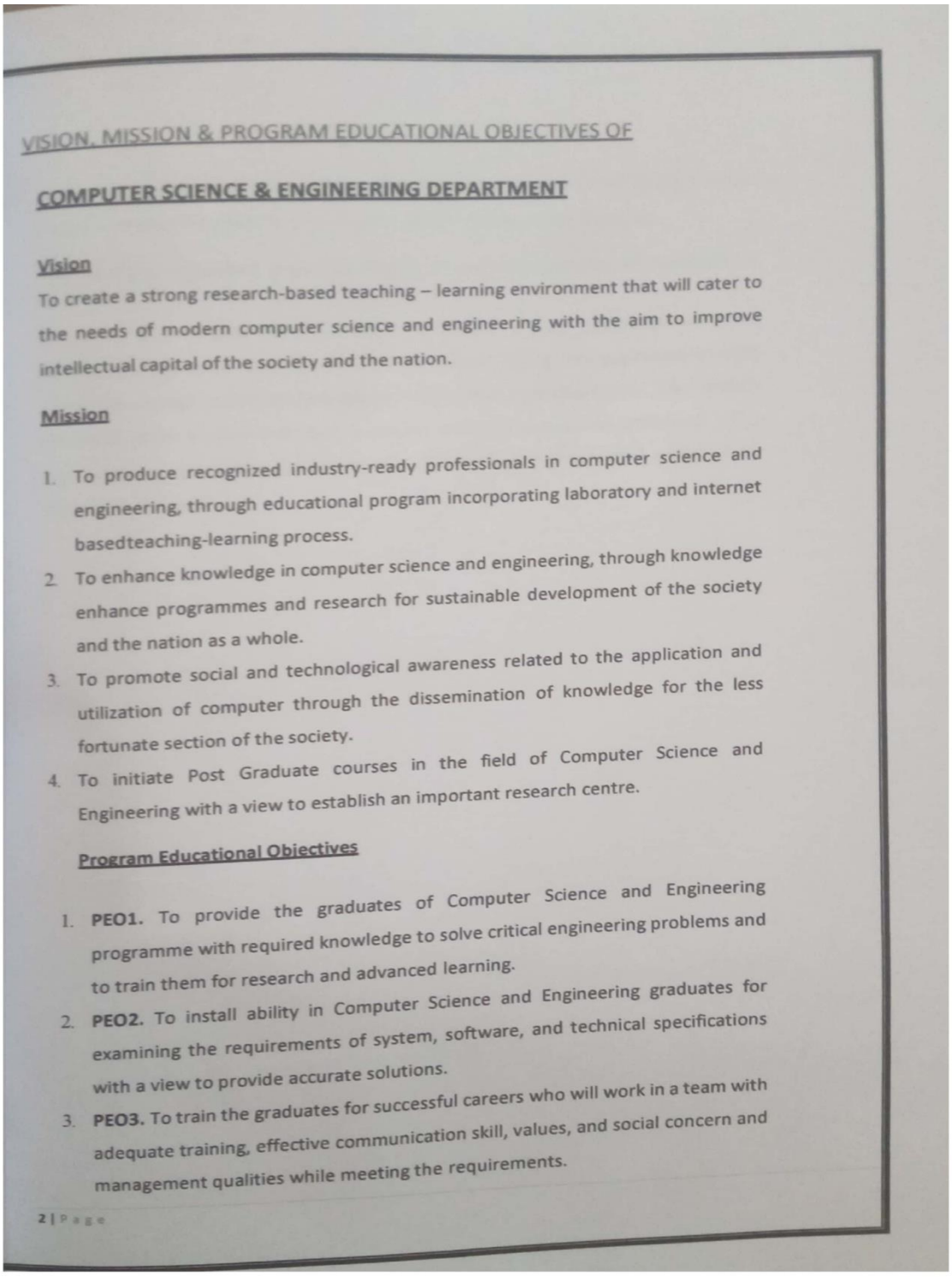

VISION, MISSION & PROGRAM EDUCATIONAL OBJECTIVES OF

COMPUTER SCIENCE & ENGINEERING DEPARTMENT

Vision

To create a strong research-based teaching – learning environment that will cater to the needs of modern computer science and engineering with the aim to improve intellectual capital of the society and the nation.

Mission

1. To produce recognized industry-ready professionals in computer science and engineering, through educational program incorporating laboratory and internet basedteaching-learning process.
2. To enhance knowledge in computer science and engineering, through knowledge enhance programmes and research for sustainable development of the society and the nation as a whole.
3. To promote social and technological awareness related to the application and utilization of computer through the dissemination of knowledge for the less fortunate section of the society.
4. To initiate Post Graduate courses in the field of Computer Science and Engineering with a view to establish an important research centre.

Program Educational Objectives

1. **PEO1.** To provide the graduates of Computer Science and Engineering programme with required knowledge to solve critical engineering problems and to train them for research and advanced learning.
2. **PEO2.** To install ability in Computer Science and Engineering graduates for examining the requirements of system, software, and technical specifications with a view to provide accurate solutions.
3. **PEO3.** To train the graduates for successful careers who will work in a team with adequate training, effective communication skill, values, and social concern and management qualities while meeting the requirements.

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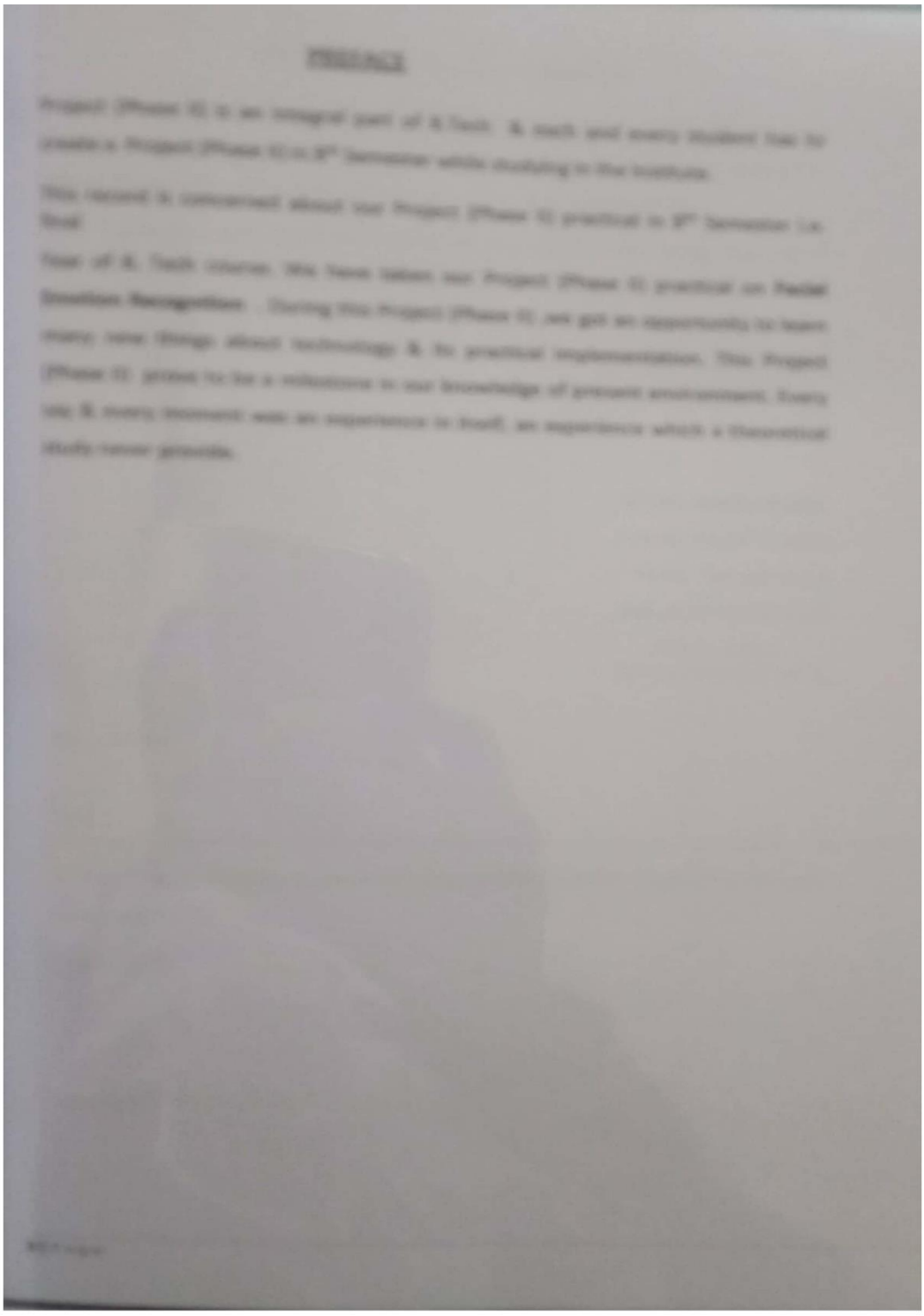
Criterion 1

QnM 1.3.2 Project work/field work/ Internships



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Criterion 1

QnM 1.3.2 Project work/field work/ Internships

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DECLARATION BY THE CANDIDATE

I the undersigned solemnly declare that the report of the thesis work entitled "Facial Emotion Recognition ", is based on my own work carried out during the course of my study under the supervision of Dr. Archana Chowdhury.

I assert that the statements made and conclusions drawn are an outcome of the project work. I further declare that to the best of my knowledge and belief that the report does not contain any part of any work which has been submitted for the award of any other degree/diploma/certificate in this University/deemed University of India or any other country. All helps received and citations used for the preparation of the thesis have been duly acknowledged.

Name - Devika Thakre
(Roll no. 3011022203021)
Name - Gulnaj Ansari
(Roll no.3011022190051)
Name - Vibha
(Roll no.-3011022190111)

Place: Bhilai

Date:

This is to certify that above statement made by the candidate is correct to the best of our knowledge.

Approved By:

Signature of the Supervisor

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Criterion 1

QnM 1.3.2 Project work/field work/ Internships

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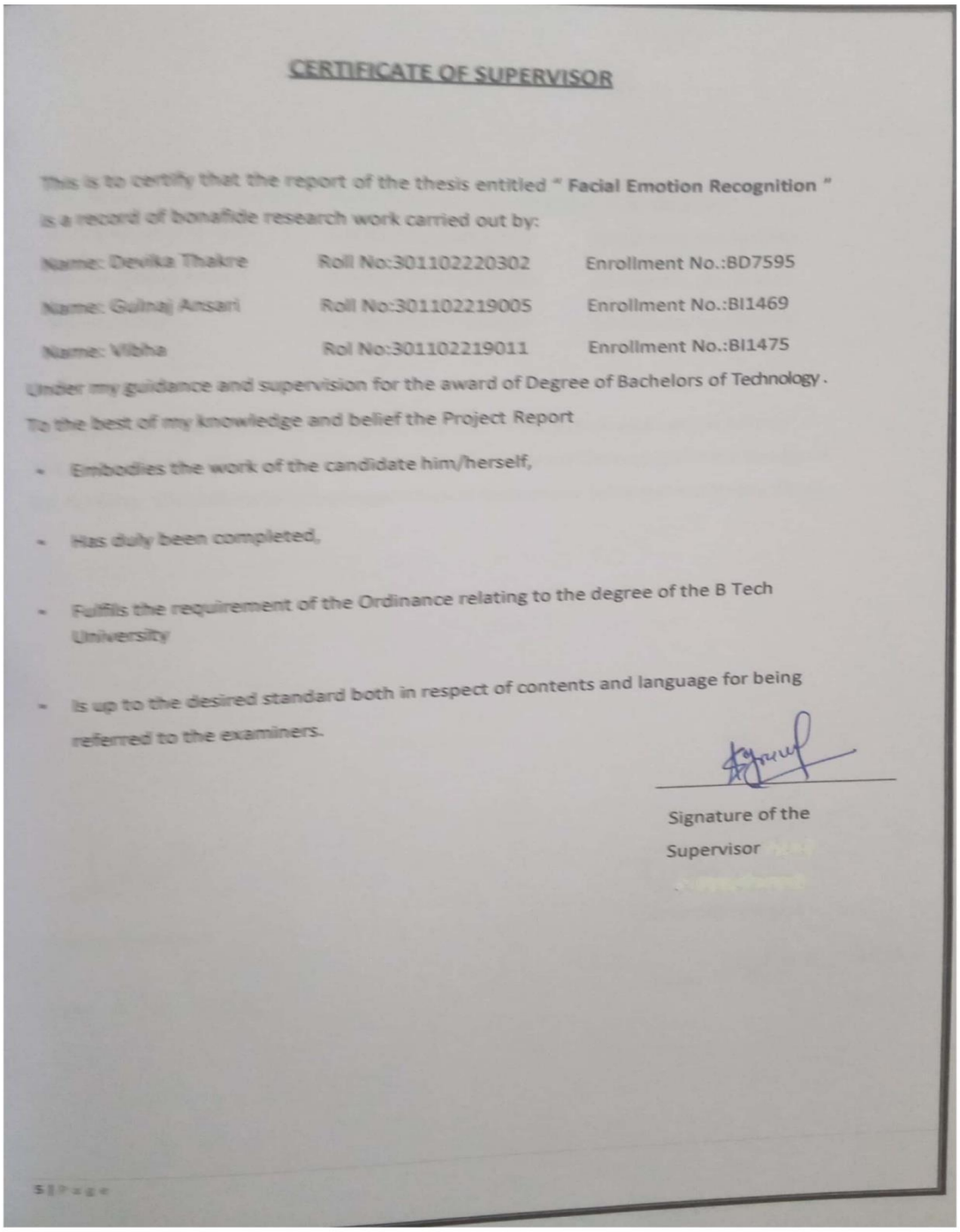

CERTIFICATE OF SUPERVISOR

This is to certify that the report of the thesis entitled " **Facial Emotion Recognition** " is a record of bonafide research work carried out by:

Name: Devika Thakre	Roll No:301102220302	Enrollment No.:BD7595
Name: Gulnaj Ansari	Roll No:301102219005	Enrollment No.:BI1469
Name: Vibha	Rol No:301102219011	Enrollment No.:BI1475

Under my guidance and supervision for the award of Degree of Bachelors of Technology .
To the best of my knowledge and belief the Project Report

- Embodies the work of the candidate him/herself,
- Has duly been completed,
- Fulfils the requirement of the Ordinance relating to the degree of the B Tech University
- Is up to the desired standard both in respect of contents and language for being referred to the examiners.

Signature of the
Supervisor

5 | P a g e

Scanned with CamScanner

DIPALI SOREN TUDU

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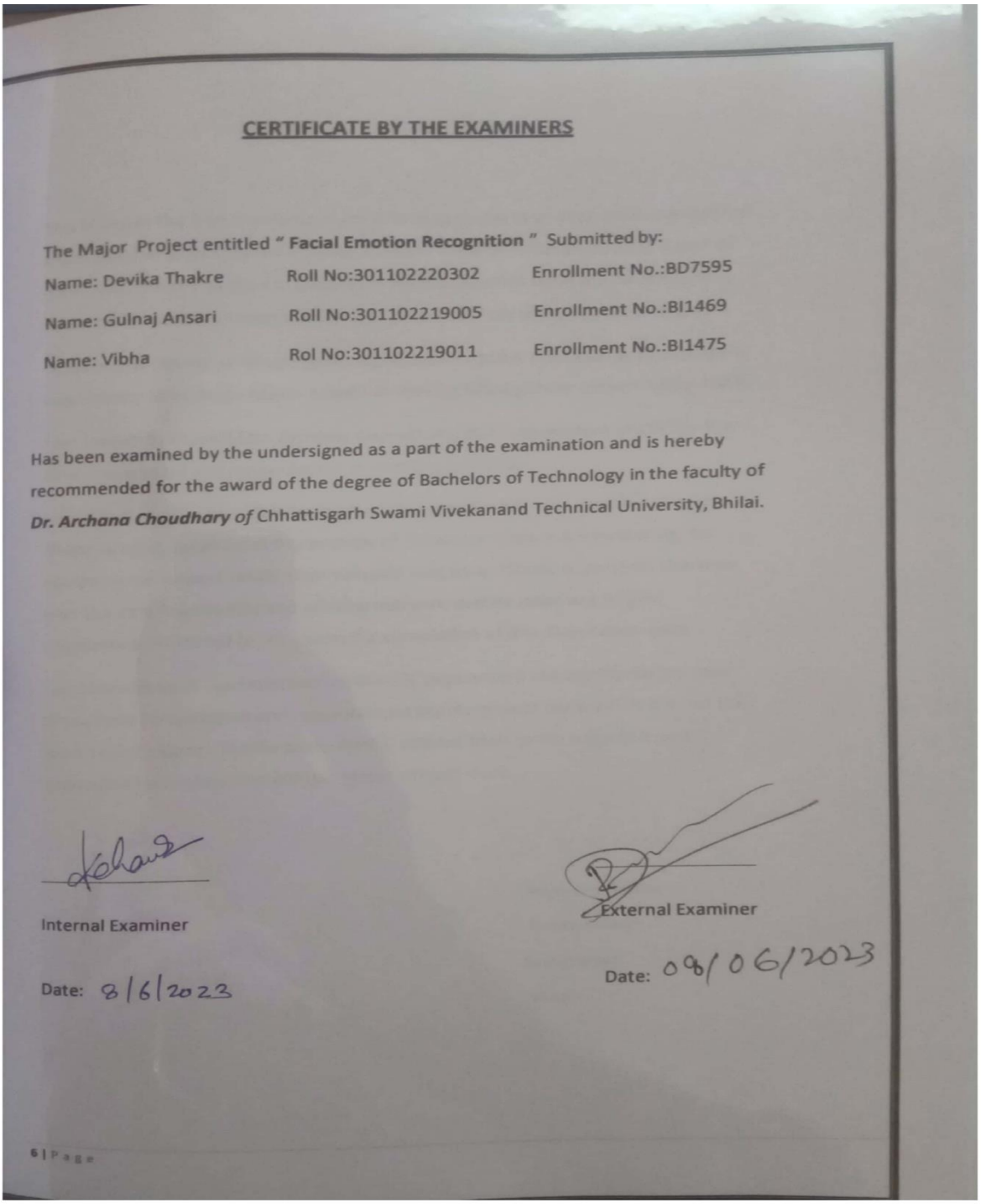
Date: 2023.11.05 09:44:00 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships



CERTIFICATE BY THE EXAMINERS

The Major Project entitled " **Facial Emotion Recognition** " Submitted by:

Name: Devika Thakre	Roll No:301102220302	Enrollment No.:BD7595
Name: Gulnaj Ansari	Roll No:301102219005	Enrollment No.:BI1469
Name: Vibha	Rol No:301102219011	Enrollment No.:BI1475

Has been examined by the undersigned as a part of the examination and is hereby recommended for the award of the degree of Bachelors of Technology in the faculty of ***Dr. Archana Choudhary*** *of* Chhattisgarh Swami Vivekanand Technical University, Bhilai.

Internal Examiner

Date: 8/6/2023

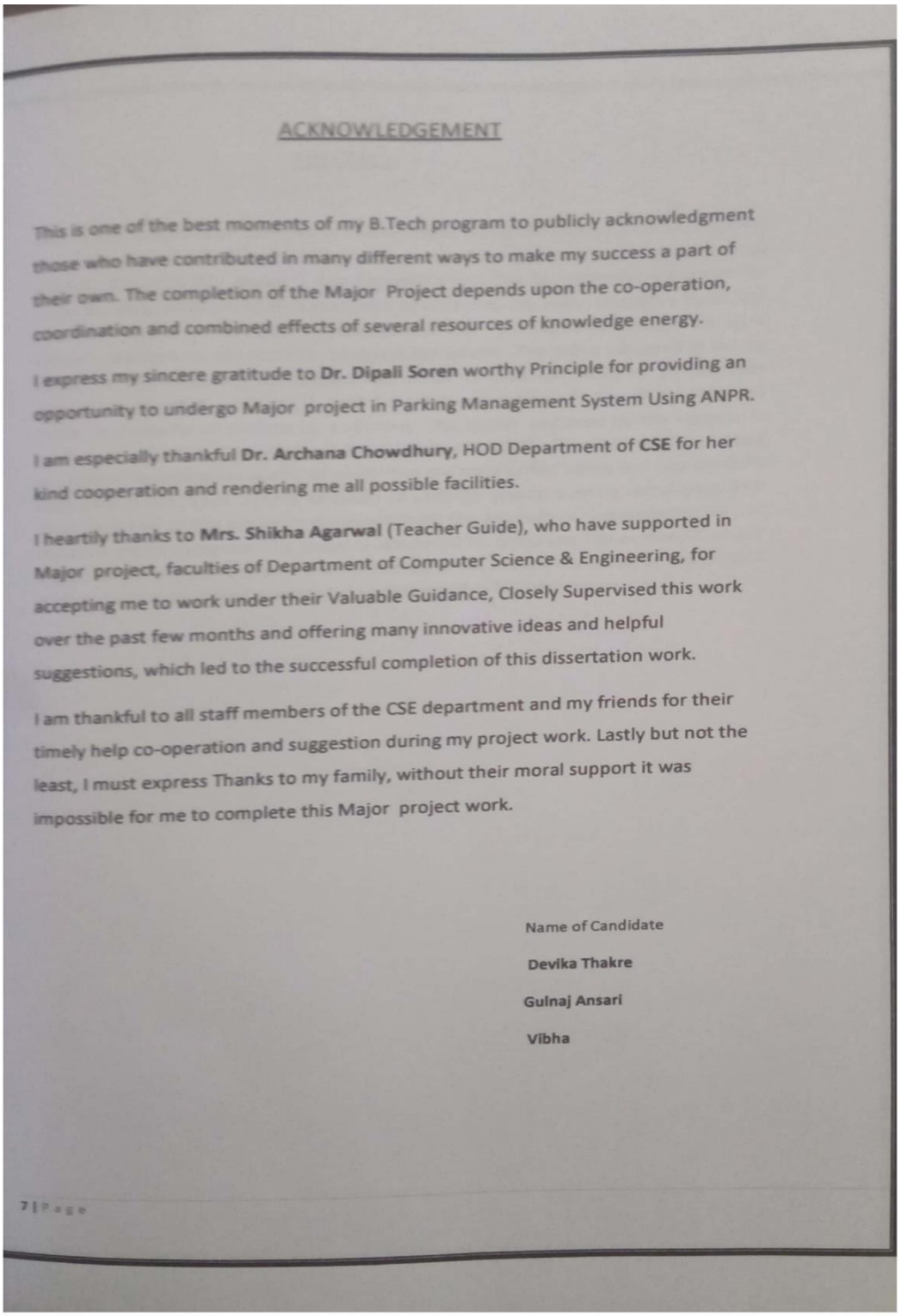
External Examiner

Date: 09/06/2023

6 | Page

Criterion 1

QnM 1.3.2 Project work/field work/ Internships



ACKNOWLEDGEMENT

This is one of the best moments of my B.Tech program to publicly acknowledgment those who have contributed in many different ways to make my success a part of their own. The completion of the Major Project depends upon the co-operation, coordination and combined effects of several resources of knowledge energy.

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I am especially thankful **Dr. Archana Chowdhury**, HOD Department of **CSE** for her kind cooperation and rendering me all possible facilities.

I heartily thanks to **Mrs. Shikha Agarwal** (Teacher Guide), who have supported in Major project, faculties of Department of Computer Science & Engineering, for accepting me to work under their Valuable Guidance, Closely Supervised this work over the past few months and offering many innovative ideas and helpful suggestions, which led to the successful completion of this dissertation work.

I am thankful to all staff members of the CSE department and my friends for their timely help co-operation and suggestion during my project work. Lastly but not the least, I must express Thanks to my family, without their moral support it was impossible for me to complete this Major project work.

Name of Candidate

Devika Thakre

Gulnaj Ansari

Vibha

7 | Page

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

ABSTRACT

Enhancing modern day machines or computers to recognize various facial expressions and to understand human emotions from them in real time is an exigent research subject. Through this paper, I put forward a solution to recognize emotions by understanding different facial expressions by collecting live video through a Flask App created. I deploy a Flask App to video stream live feed captured through the local camera attached to the machine or computer system. The video captured is fed to various image extraction techniques. The facial features are identified by different operations provided by OpenCV and the region consisting of parts of the face are made to surround or enclose by a contour. This region, enclosed by the contour is used as an input to Convolutional Neural Network (CNN). The CNN model created consists of six activation layers, of which four are convolution layers and two are fully controlled layers. Each layer is designed to undergo several training techniques. The main objective of this project is to demonstrate the accuracy of Convolutional Neural Network model designed. The paper is concluded by discussing the outcomes of our project and the ways to improve the efficiency of the model. The scope of this project is also analyzed to enhance technologies developed in the near future.

Project Phase II
on
"Face reorganization E- attendance system"
On
Submitted to

CHRISTIAN COLLEGE OF ENGINEERING & TECHNOLOGY BHILAI

In partial fulfilment of the requirement for the award of the degree of
Bachelor of Technology
In
Computer Science & Engineering

Submitted By:

NAME:	ROLL NO.	ENROLLMENT NO.
vinay minj	301102219012	BI1476
Roshan Sahu	301102219008	BI1472
Shivam Pandey	301102219010	BI1474
Jeevan bara	301102219006	BI1470

Guide by: Rupesh Mude

Session: 2019-2023

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Date: 2023.11.05 09:45:51 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

VISION, MISSION & PROGRAM EDUCATIONAL OBJECTIVES OF COMPUTER SCIENCE & ENGINEERING DEPARTMENT

Vision

To create a strong research-based teaching – learning environment that will cater to the needs of modern computer science and engineering with the aim to improve intellectual capital of the society and the nation.

Mission

1. To produce recognized industry-ready professionals in computer science and engineering, through educational program incorporating laboratory and internet-based teaching-learning process.
2. To enhance knowledge in computer science and engineering, through knowledge enhance programs and research for sustainable development of the society and the nation.
3. To promote social and technological awareness related to the application and utilization of computer through the dissemination of knowledge for the less fortunate section of the society.
4. To initiate Post Graduate courses in the field of Computer Science and Engineering with a view to establish an important research center.

Program Educational Objectives

1. **PEO1.** To provide the graduates of Computer Science and Engineering program with required knowledge to solve critical engineering problems and to train them for research and advanced learning.
2. **PEO2.** To install ability in Computer Science and Engineering graduates for examining the requirements of system, software, and technical specifications with a view to provide accurate solutions.
3. **PEO3.** To train the graduates for successful careers who will work in a team with adequate training, effective communication skill, values, and social concern and management qualities while meeting the requirements.

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 09:46:28 +05'30'

PREFACE

Major Project is an integral part of B. Tech & every student must create a Major project in 8th Semester while studying in the Institute.

This record is concerned about our Major Project practical in 8th Semester i.e., final year of B. Tech course. We have taken our Major Project practical Title on "Face reorganization E-attendance system. During this Major Project, we got an opportunity to learn many new things about technology & its practical implementation. This Major Project prove to be a milestone in our knowledge of present environment. Every say & every moment was an experience, an experience which a theoretical study never provides.

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 09:46:57 +05'30'

DECLARATION BY THE CANDIDATE

I the undersigned solemnly declare that the report of the thesis work entitled Face reorganization E- attendance system, is based on my own work carried out during my study under the supervision of Rupesh Mude I assert that the statements made and conclusions drawn are an outcome of the project work. I further declare that to the best of my knowledge and belief that the report does not contain any part of any work which has been submitted for the award of any other degree/diploma/certificate in this University/deemed University of India or any other country. All helps received and citations used for the preparation of the thesis have been duly acknowledged.

Vinay Minj

Roll no. –301102219012

Roshan Sahu

Roll no. –301102219008

Shivam Pandey

Roll no. –301102219010

Jeevan Bara

Roll no. –301102219006

Place: Bhilai

Date: 8\6\23

This is to certify that above statement made by the candidate is correct to the best of our knowledge.

Approved By-

Signature of the Supervisor

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 09:47:38 +05'30'

CERTIFICATE OF SUPERVISOR

This is to certify that the report of the thesis entitled Face reorganization e- attendance system" is a record of bonafide research work carried out by:

Name: vinay minj	Roll No: 301102219012	Enrollment No.: BI1476
Name: Roshan Sahu	Roll No: 301102219008	Enrollment No.:BI1472
Name: Shiva m Pandey	Roll No: 301102219010	Enrollment No.:BI1474
Name: Jeevan bara	Roll No: 301102219006	Enrollment No.:BI1470

Under my guidance and supervision for the award of Degree of Bachelors of Technology in the faculty of computer science engineering and technology of Chhattisgarh Swami Vivekanand Technical University, Bhilai (C.G.), India. To the best of my knowledge and belief the Project Report

- Embodies the work of the candidate him/herself,
- Has duly been completed,
- Fulfils the requirement of the Ordinance relating to the degree of the B Tech University
- Is up to the desired standard both in respect of contents and language for being referred to the examiners.

Signature of the Supervisor

Forwarded to Chhattisgarh Swami Vivekanand Technical University
Bhilai

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 09:48:11 +05'30'

CERTIFICATE BY THE EXAMINERS

The Major Project entitled " Face reorganization e- attendance system" Submitted by:

Name: Vinay Minj	Roll No: 301102219012	Enrollment No.:BI1476
Name: Roshan Sahu	Roll No: 301102219008	Enrollment No.:BI1472
Name: Shivam Pandey	Roll No: 301102119010	Enrollment No.:BI1474
Name: Jeevan Bara	Roll No: 301102219006	Enrollment No.:BI1470

Has been examined by the undersigned as a part of the examination and is hereby recommended for the award of the degree of Bachelors of Technology in the faculty of computer science engineering and technology of Chhattisgarh Swami Vivekanand Technical University, Bhilai.

Internal Examiner
Date: 8/6/2023

External Examiner
Date: 08/06/2023

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 09:48:36 +05'30'

ACKNOWLEDGEMENT

This is one of the best moments of my B-TECH program to publicly acknowledgment those who have contributed in many ways to make my success a part of their own. The completion of the Major Project depends upon the co-operation, coordination, and combined effects of several resources of knowledge energy.

I express my sincere gratitude to **Dr. Dipali Soren** worthy Principle for providing an opportunity to undergo Major project in Parking Management System Using ANPR.

I am especially thankful **Dr. Archana Chowdhary** , HOD Department of computer science and engineering for her kind cooperation and rendering me all possible facilities.

I heartily thanks to **Mr. Rupesh Mude** (Teacher Guide), who have supported in Major project, faculties of Department of Computer Science & Engineering, for accepting me to work under their Valuable Guidance, Closely Supervised this work over the past few months and offering many innovative ideas and helpful suggestions, which led to the successful completion of this dissertation work.

I am thankful to all staff members of the CSE department and my friends for their timely help co-operation and suggestion during my project work. Lastly but not the least, I must express Thanks to my family, without their moral support it was impossible for me to complete this Major project work.

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 09:49:14 +05'30'

CHRISTIAN COLLEGE OF ENGINEERING & TECHNOLOGY, BHILAI

BACHELOR OF TECHNOLOGY

Computer Science & Engineering

PROJECT PHASE- II

"GHUMKETU ARDUINO-BASED ROVER"

(B.Tech. 8th Semester)

Submitted By:

NAME OF STUDENT:	ROLL NO.	ENROLLMENT NO.
VIJAY RELWANI	301102220307	AS1030
RAHUL ANISH	301102220303	AS4253
SHILANATH PRATAP	301102219009	BI1473

Guide by: Dr . Archana Chowdhury

Session: 2019-2023

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 09:49:38 +05'30'

CHRISTIAN COLLEGE OF ENGINEERING & TECHNOLOGY, BHILAI

BACHELOR OF TECHNOLOGY
in
Computer Science & Engineering

PROJECT PHASE- II

" GHUMKETU ARDUINO-BASED ROVER "

(B.Tech. 8th Semester)

NAME OF STUDENT:	ROLL NO.	ENROLLMENT NO.
VIJAY RELWANI	301102220307	AS1030
RAHUL ANISH	301102220303	AS4253
SHILANATH PRATAP	301102219009	BI1473

Guide by: Dr. Archana Chowdhury

Session: 2019-2023

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 09:50:10 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

DECLARATION

We the undersigned solemnly declare that the report of the project work entitled "GHUMKETU URDINO-BASED ROVER " is based on our own work carried out during the course of our study under he supervision of the Project Coordinator- Dr. Archana Chowdhary. We assert that the statement made d conclusion drawn is an outcome of project work. We further declare that to the best of our knowledge d belief, the report does not contain any part of any work which has been submitted for the award of any other degree/diploma/certificate in this University or any other University of India or abroad.

Signature of Student	Signature of Student	Signature of Student
VIJAY RELWANI	RAHUL ANISH	SHILANATH PRATAP
301102220307	301102220303	301102219009

CERTIFICATE

This is to certify that the report of the project submitted is an outcome of the project work entitled "GHUMKETU AURDINO-BASED ROVER " carried out: "Vijay Relwani, Bearing Roll No. 1102220307, Rahul Anish, Bearing Roll No. 301102220303 and Shilanath Pratap, Bearing Roll NO. 102219009" carried out under my guidance and supervision for the award of Bachelors in Computer Science of Engineering of Chhattisgarh Swami Vivekanand Technical University, Bhilai.

(Signature of the Guide)

(Signature of the Supervisor.)

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 09:50:52 +05'30'

CERTIFICATE BY THE EXAMINATION

Session: - 2019-2023

This is to certify that the Project work Entitled

" GHUMKETU AURDINO-BASED ROVER "

Submitted By:

NAME OF STUDENT:	ROLL NO.	ENROLLMENT NO.
VIJAY RELWANI	301102220307	AS1030
RAHUL ANISH	301102220303	AS4253
SHILANATH PRATAP	301102219009	BI1473

ave been examined by the undersigned as a part of the examination for the award of Bachelor of Computer Science of Engineering of Chhattisgarh Swami Vivekanand Technical University, Bhilai.

internal Examiner

External Examiner

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 09:51:16 +05'30'

ACKNOWLEDGMENT

We express our sincere gratitude to our guide, Dr. Archana Chowdhury for her valuable guidance, proper advice, and constant encouragement. We would like to thank our faculty member Mrs. Archana Chowdhury for supporting our project. We would like to thanks

Dr. Dipali Soren, Principal of Christian College of Engineering & Technology, Bhilai (C.G.) for providing the required facilities.

Signature of Student VIJAY RELWANI, 301102220307

Signature of Student RAHUL ANISH, 301102220303

Signature of Student SHILANATH PRATAP, 301102219009

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 09:51:58 +05'30'

ABSTRACT

his thesis presents the design, development, and control of self-balancing two-wheeler rover.

he goal of this project is to create a robust and stable utonomous rover that can balance itself on two wheels using ensor fusion and advanced control algorithms.

he thesis explores the key components involved in the esign, including hardware selection, sensor integration, ontrol system development, and experimental validation.

hrough comprehensive analysis and evaluation, the thesis emonstrates the effectiveness and feasibility of the proposed elf-balancing two-wheeler rover.

CHRISTIAN COLLEGE OF ENGINEERING & TECHNOLOGY, BHILAI

BACHELOR OF ENGINEERING

In

Computer Science & Engineering

PROJECT PHASE-II

"ONLINE FOOD ORDERING SYSTEM "

(B.TECH 8TH SEMESTER)

Submitted By:

NAME OF STUDENTS	ROLL NO	ENROLLEMENT NO
VANDANA YADAV	301102220306	BD9207
TIKESHWARI CHAUHAN	301102220304	BD9205
VAISHALI BANJARE	301102220305	BE1215
CHANCHALA YADAV	301102220300	BD9002

8/6/23

Guide By: Mrs. Amrita Banjare

Session: 2020-2023

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 09:52:59 +05'30'

DECLARATION BY THE CANDIDATE

I the undersigned solemnly declare that the report of the thesis work entitled < "Online Food Ordering System" , is based on my own work carried out during the course of my study under the supervision of **'Dr. Archana Choudhary'**

I assert that the statements made and conclusions drawn are an outcome of the project work. I further declare that to the best of my knowledge and belief that the report does not contain any part of any work which has been submitted for the award of any other degree/diploma/certificate in this University/deemed University of India or any other country. All helps received and citations used for the preparation of the thesis have been duly acknowledged.

Name-VANDANA YADAV

(Roll no.- 301102220306)

Name-CHANCHALA YADAV

(Roll no.-301102220300)

Name-VAISHALI BANJARE

(Roll no.-301102220305)

Name-TIKESHWARI

(Roll no.-301102220304)

Place: Bhilai

Date:

This is to certify that above statement made by the candidate is correct to the best of our knowledge.

Approved By-

8/6/23

Signature of the Supervisor

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 09:53:28 +05'30'

CERTIFICATE OF SUPERVISOR

This is to certify that the report of the thesis entitled " Online Food Ordering System " is a record of bonafide research work carried out by:

Name: Vandana Yadav	Roll No: 301102220306	Enrollment No.: BD9207
Name: Chanchala yadav	Roll No: 301102220300	Enrollment No.: BD9002
Name: Vaishali Banjare	Roll No: 301102220305	Enrollment No.: BE1215
Name: Tikeshwari	Roll No: 301102220304	Enrollment No.: BD9205

Under my guidance and supervision for the award of Degree of Bachelors of Technology in the faculty of **Dr. Archana Choudhary** of Chhattisgarh Swami Vivekanand Technical University, Bhilai (C.G.), India. To the best of my knowledge and belief the Project Report

- Embodies the work of the candidate him/herself,
- Has duly been completed,
- Fulfils the requirement of the Ordinance relating to the degree of the B Tech University
- Is up to the desired standard both in respect of contents and language for being referred to the examiners.

9/6/23
Signature of the Supervisor

Forwarded to Chhattisgarh Swami Vivekanand Technical University
Bhilai

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 09:53:55 +05'30'

CERTIFICATE BY THE EXAMINERS

The Major Project entitled " Online Food Ordering System " Submitted by:

Name: Vandana Yadav	Roll No: 301102220306	Enrollment No.: BD9207
Name: Chanchala yadav	Roll No: 301102220300	Enrollment No.: BD9002
Name: Vaishali Banjare	Roll No: 301102220305	Enrollment No.: BE1215
Name: Tikeshwari	Roll No: 301102220304	Enrollment No.: BD9205

Has been examined by the undersigned as a part of the examination and is hereby recommended for the award of the degree of Bachelors of Technology in the faculty of **Dr. Archana Choudhary** of Chhattisgarh Swami Vivekanand Technical University, Bhilai.

Internal Examiner
Date: 8/6/2023

External Examiner
Date: 08/06/2023

4

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 09:54:33 +05'30'

ACKNOWLEDGEMENT

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I am thankful to all staff members of the CSE department and my friends for their timely help co-operation and suggestion during my project work. Lastly but not the least, I must express Thanks to my family, without their moral support it was impossible for me to complete this Major project work.

ABSTRACT

The online food ordering system provides convenience for the customers. It overcomes the disadvantages of the traditional queuing system. This system increases the takeaway of foods than visitors. Therefore, this system enhances the speed and standardization of taking the order from the customer. It provides a better communication platform. the user's details are noted electronically.

The online food ordering system set up menu online and the customers easily places the order with a simple mouse click. Also with a food menu online you can easily track the orders, maintain customer's database and improve your food delivery service. This system allows the user to select the desired food items from the displayed menu. The user orders the food items. The payment can be made online or pay-on-delivery system. The user's details are maintained confidential because it maintains a separate account for each user. An id and password is provided for each user. Therefore it provides a more secured ordering.

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 09:55:46 +05'30'

CHRISTIAN COLLEGE OF ENGINEERING & TECHNOLOGY, BHILAI

BACHELOR OF TECHNOLOGY
In
Computer Science & Engineering

Project (Phase II)

''Virtual Mouse Using Hand Recognition"

(B. Tech 8th Semester)

Submitted By:

NAME OF STUDENT:	ROLL NO:	ENROLLMENT NO:
Arti Xalxo	301102219004	BI1468
Poonam Lakra	301102219007	BI1471

Guide by: Miss Divyani

Session: 2019-2023

1

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 09:56:16 +05'30'

Vision, Mission and Program Educational Objectives of the Computer Science and Engineering Department

Vision

To create a strong research-based teaching – learning environment that will cater to the needs of modern computer science and engineering with the aim to improve intellectual capital of the society and the nation.

Mission

1. To produce recognized industry-ready professionals in computer science and engineering, through educational program incorporating laboratory and internet-based teaching-learning process.
2. To enhance knowledge in computer science and engineering, through knowledge enhance programmes and research for sustainable development of the society and the nation as a whole.
3. To promote social and technological awareness related to the application and utilization of computer through the dissemination of knowledge for the less fortunate section of the society.
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PE02: To instill ability in Computer Science and Engineering graduates for examining the requirements of system, software, and technical specifications with a view to provide accurate solutions.
PE03: To train the graduates for successful careers who will work in a team with adequate training, effective communication skill, values, social concern and management qualities while meeting the requirements of the industry.

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 09:56:47 +05'30'

PREFACE

Project (Phase II) is an integral part of B. Tech and each and every student has to create the Minor Project in the 8thSemester while studying in Institute.

This record is concerned about our practical Project (Phase II) during 8th Semester i.e., final year of B. Tech course. We have taken our Practical Project (Phase II) in **VIRTUAL MOUSE USING RECOGNITION.** During this Project (Phase II), we got to learn many new things about the technology and its practical implementation. This Project (Phase II) proved to be a milestone in our knowledge of present environment. Every say and every moment was an experience in itself, an experience which theoretical study can't provide.

DECLARATION BY THE CANDIDATE

I the undersigned solemnly declare that the report of the thesis work entitled **VIRTUAL MOUSE USING GESTURE RECOGNITION,** is based on my own work carried out during the course of my study under the supervision of Miss Divyani.

I asset that the statements made and conclusion drawn are an outcome of the project work. I further declare that to the best of my knowledge and belief that the report does not contain any part of any work which has been submitted for the award of any other degree/diploma/certificate in this University/deemed of India or any Other country, all helps received and citations used preparation of the thesis have been duly acknowledged,

Arti Xalxo

(Roll No.301102219004)

Poonam Lakra

(Roll No. 301102219007)

Place: Bhilai
Date:

This is to certify that above statement made by the candidate is correct to the best our knowledge.

Approved By:

Divyani

Signature of the Supervisor or Head of the Department

CERTIFICATE OF SUPERVISOR

ıis is to certify that the report of the thesis entitled VIRTUAL **MOUSE USING ESTURE RECOGNITION** is a record of bonafide research work carried out by:

Arti Xalxo	**Roll No: 301102219004**	**Enrollment No: BI1468**
Poonam Lakra	**Roll No. 301102219007**	**Enrollment No: BI1471**

nder my guidance and supervision for the award of Degree of Bachelors of Technology in e faculty of Chhattisgarh Swami Vivekanand Technical University, Bhilai (C.G.), India to e test of my knowledge and belief the Project Report

- Embodies the work of the candidate him/herself.
- Has duly been completed,
- Fulfils the requirement of the Ordinance relating to the degree of the B Tech University
- Is up to the desired standard both in respect of contents and language for being referred to the examiners.

Signature of the Supervisor
Head of Department

ɔrwarded to Chhattisgarh Swami Vivekanand Technical University Bhilai

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 09:58:20 +05'30'

CERTIFICATE BY THE EXAMINER

This is to certify that the project work entitled

" VIRTUAL MOUSE USING GESTURE RECOGNITION "

Submitted by

Arti Xalxo **Roll No: 30110221900** **Enrollment No: BI1468**

Poonam Lakra **Roll No. 301102219007** **Enrollment No: BI1471**

Have been examined by the undersigned, as a part of the examination for the award of Bachelor of

Technology degree in Computer Science & Engineering of Chhattisgarh Swami VivekanandTechnical University, Bhilai.

Internal Examiner: 8/6/2023

External Examiner Date: 06/06/2023

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DIPALI SOREN TUDU

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Date: 2023.11.05 09:59:18 +05'30'

ACKNOWLEDGEMENT

It is my pleasure to be indebted to various people, who directly or indirectly contributed in the development of this work and who influenced my thinking behavior and acts during the course of study.

I express my sincere gratitude to **Dr. Dipali Soren** worthy Principal for providing me an opportunity to undergo Major Project in **VIRTUAL MOUSE USING GESTURE RECOGNITION.**

I am thankful to **Dr. Archana Choudhary** HOD CS department, for her support, cooperation, and motivation provided to me during the Major Project for constant inspiration, presence and blessings.

I also extend my sincere appreciation to Miss Divyani who provided his valuable suggestions and precious time in accomplishing my Minor Project report.

Lastly, I would like to thank the almighty and my parents for their moral support and my friends with whom I shared my day-to day experience and received lots of suggestions that my quality of work

Arti Xalxo
Poonam Lakra

CONTENTS

A Project Report on

Design and Fabrication of Portable Pedal Operated Pneumatic Lifting Jack for LMV

Submitted to

Chhattisgarh Swami Vivekananda Technical University

Bhilai (C.G.), India

In partial fulfillment of the award of degree

BACHELOR OF TECHNOLOGY

In

MECHANICAL ENGINEERING

Submitted by

Shreyansh Lal (301103719009),

Rahul Bramhankar(301103719003),

Sahil Hussain (301103719006)

Under the Guidance of

Dr. Radheshyam H. Gajghat

Professor & HoD, Department of Mechanical Engineering

DEPARTMENT OF MECHANICAL ENGINEERING

CHRISTIAN COLLEGE OF ENGINEERING & TECHNOLOGY

Kailash Nagar, Industrial Estate P.O., Bhilai - 490026

SESSION 2022-23

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Criterion 1

QnM 1.3.2 Project work/field work/ Internships

DECLARATION BY THE CANDIDATES

We, the undersigned solemnly declare that the report of the project entitled as **"Design and Fabrication of Portable Pedal Operated Pneumatic Lifting Jack for LMV"** is based on our own work which has been carried out under the supervision of **Dr. Radheshyam H. Gajghat,** Professor & HoD, Department of Mechanical Engineering.

We assert that the statements made and the conclusions drawn are an outcome of our project work. We further certify that

i. The work contained in the project is original and has been done by us under the general supervision of our supervisor.

ii. The work has not been submitted to any other institute for any other degree/diploma/certificate in this university or any other University of India or abroad.

iii. We have followed the guidelines provided by the University for writing the project.

iv. We have conformed to the norms and guidelines given in the concerned Ordinance of the University.

v. Whenever we have used material (data, theoretical analysis, and text) from other sources, we have given due credit to them by citing them in the text of the project and giving their details in the references.

vi. Whenever we have quoted written materials from the other sources, we have put them under quotation marks and have given due credit to the sources by citing them and giving required details in the references.

Shreyansh Lal	Rahul Bramhankar	Sahil Hussain
(301103719009)	(301103719003)	(301103719006)

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CERTIFICATE FROM THE SUPERVISOR

This is to certify that the work incorporated in the project, entitled as **"Design and Fabrication of Portable Pedal Operated Pneumatic Lifting Jack for LMV"** is a record of project work carried out by **Shreyansh Lal (301103719009), Rahul Kumar Bramhankar (301103719003), Sahil Hussian (301103719006),** under my guidance and supervision for the award of the Degree of **Bachelor of Technology** in the faculty of **Mechanical Engineering** of Chhattisgarh Swami Vivekananda Technical University Bhilai, Chhattisgarh, India.

To the best of my knowledge and belief the project -

(i) Embodies the work of the candidates themselves,
(ii) Has duly been completed,
(iii) Fulfills the requirement of the ordinance relating to the B.E degree of the University and
(iv) Is up to the desired standard both in respect of contents and the language for being referred to the examiners.

08/06/2023

Dr. Radheshyam H. Gajghat
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08/06/2023

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CERTIFICATE FROM THE EXAMINERS

The thesis entitled as **"Design and Fabrication of Portable Pedal Operated Pneumatic Lifting Jack for LMV"**, submitted by **Shreyansh Lal (301103719009), Rahul Barmhankar (301103719003), Sahil Hussian (301103719006)**, has been examined by the undersigned as a part of the examination and is hereby recommended for the award of the degree of **Bachelor of Engineering**.

Internal Examiner

Date: 08/06/23

External Examiner

Date: 08/06/23

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ACKNOWLEDGEMENT

We found ourselves pleased to have an opportunity to express the help rendered to us by all concerned with successful completion of the work. The success and final outcome of this project required a lot of guidance and assistance from many people and we are extremely fortunate to have all the facilities and support throughout our project work. Whatever we have done is only due to such guidance and assistance and we would not forget to thanks them.

It is immense pleasure to express our deep sense of thanks and gratitude to our mentor and guide **Dr. Radheshyam H. Gajghat**. His dedication and keen interest above all his overwhelming attitude to help his students had been solely and mainly responsible for completing our project work.

We convey our regards and gratitude to **Rev. Fr. Dr. P. S. Varghese,** Executive Vice Chairman, for his moral support and inspirations throughout the endeavour of our project work.

We owe a deep sense of thanks and gratitude to **Dr. Dipali Soren**, Principal, CCET, Bhilai, for her continuous motivation and guidance throughout our work in CCET.

We express our gratitude and regards to our Head of the Department **Dr. Radheshyam H. Gajghat** for his interrupted support and guidance at every stage of our project work. We are also very much grateful to our Project Coordinator **Mr. Amit Sarda** for his prompt inspiration, timely suggestion with kindness and enthusiasm to complete our project work.

Last but not the least we are very much thankful to **all the faculties and staff members of the Department of Mechanical Engineering** who have helped us directly or indirectly to complete our project work as a whole.

Shreyansh Lal
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ABSTRACT

The Pedal Operated Pneumatic Portable Jack for LMV is an innovative and efficient solution designed to streamline the process of lifting vehicles for maintenance, repair, and tire changes. This abstract provides a concise overview of this cutting-edge automotive tool and highlights its key features and benefits. The Pedal Operated Pneumatic Portable Jack harnesses the power of compressed air to effortlessly lift vehicles of varying sizes and weights. It eliminates the need for manual pumping or electric power, offering a convenient and reliable alternative for automobile enthusiasts, mechanics, and roadside assistance professionals. Equipped with a sturdy and durable construction, the car jack's compact design allows for easy portability and storage. The inclusion of a pedal-operated mechanism enables users to swiftly raise or lower the jack with minimal effort, ensuring a smooth and controlled lifting process.

The adjustable height range of this Jack accommodates a wide range of vehicles, from sedans to SUVs, making it a versatile tool for various automotive applications. Its robust lifting capacity ensures stable and secure elevation, providing a safe working environment for mechanics and enthusiasts alike. Key safety features, such as a built-in pressure relief valve and a reliable locking mechanism, further enhance the car jack's reliability and user confidence during operation. Additionally, the inclusion of rubber-coated contact points prevents damage to the vehicle's frame and ensures a secure grip during lifting.

In conclusion, the addition of pedal foot operated pump, Pneumatic Portable Jack offers an efficient, user-friendly, and safe solution for lifting light motor vehicles. Its innovative design, compact size, and ease of use make it an indispensable tool for automotive enthusiasts, professional mechanics, and roadside assistance providers, enhancing productivity and simplifying vehicle maintenance tasks.

DIPALI SOREN TUDU

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A Project Report on

Design and Fabrication of Groundnut Shelling Machine

Submitted to

Chhattisgarh Swami Vivekananda Technical University
Bhilai (C.G.), India
Inpartial fulfilment of the award of degree
BACHELOR OF ENGINEERING
in
MECHANICAL ENGINEERING

Submitted by
Deepak Kumar (301103720300)
Himanshu Tamrakar (301103720301)
Seeyon Kumar (301103720302)

Under the Guidance of
Mr. AMIT SARDA
Associate Professor, Department of Mechanical Engineering

DEPARTMENT OF MECHANICAL ENGINEERING
CHRISTIAN COLLEGE OF ENGINEERING & TECHNOLOGY
Kailash Nagar, Industrial Estate P.O., Bhilai - 490026
SESSION 2022-2023

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DECLARATION BY THE CANDIDATES

We, the undersigned solemnly declare that the report of the project entitled as **"Design and Fabrication of Groundnut Shelling Machine"** is based on our own work which has been carried out under the supervision of **Mr. Amit Sarda,** Associate Professor, Department of Mechanical Engineering.

We assert that the statements made and the conclusions drawn are an outcome of our project work. We further certify that

i. The work contained in the project is original and has been done by us under the general supervision of our supervisor.

ii. The work has not been submitted to any other institute for any other degree/diploma/ certificate in this university or any other University of India or abroad.

iii. We have followed the guidelines provided by the University for writing the project.

iv. We have conformed to the norms and guidelines given in the concerned Ordinance of the University.

v. Whenever we have used material (data, theoretical analysis, and text) from other sources, we have given due credit to them by citing them in the text of the project and giving their details in the references.

vi. Whenever we have quoted written materials from the other sources, we have put them under quotation marks and have given due credit to the sources by citing them and giving required details in the references.

Deepak Kumar	Himanshu Tamrakar	Seeyon Kumar
(301103720300)	(301103720301)	(301103720302)

CERTIFICATE FROM THE SUPERVISOR

This is to certify that the work incorporated in the project, entitled as **"Design and Fabrication of Groundnut Shelling Machine"** is a record of project work carried out by **Deepak Kumar (301103720300), Himanshu Tamrakar (301103720301), Seeyon Kumar (301103720302)** under my guidance and supervision for the award of the Degree of **Bachelor of Engineering** in the faculty of **Mechanical Engineering** of Chhattisgarh Swami Vivekananda Technical University Bhilai, Chhattisgarh, India.

To the best of my knowledge and belief the project

(i) Embodies the work of the candidates themselves,
(ii) Has duly been completed,
(iii) Fulfills the requirement of the ordinance relating to the B.E degree of the University and
(iv) Is up to the desired standard both in respect of contents and the language for being referred to the examiners.

Mr. Amit Sarda
Associate Professor
Department of Mechanical Engineering
Christian College of Engineering and Technology, Bhilai

Forwarded to Chhattisgarh Swami Vivekananda Technical University, Bhilai

08/06/2023

Dr. Radheshyam H. Gajghat
Professor & Head
Department of Mechanical Engineering
Christian College of Engineering and Technology, Bhilai

8/06/2023

Dr. Dipali Soren
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CERTIFICATE FROM THE EXAMINERS

The thesis entitled as **"Design and Fabrication of Groundnut Shelling Machine"**, submitted by **Deepak Kumar (301103720300), Himanshu Tamrakar (301103720301), Seeyon Kumar (301103720302)** has been examined by the undersigned as a part of the examination and is here by recommended for the award of the degree of **Bachelor of Engineering**.

Internal Examiner
Date: 09/06/23

External Examiner
Date: 09/06/23

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Criterion 1

QnM 1.3.2 Project work/field work/ Internships

ACKNOWLEDGEMENT

We found ourselves pleased to have an opportunity to express the help rendered to us by all concerned with successful completion of the work. The success and final outcome of this project required a lot of guidance and assistance from many people and we are extremely fortunate to have all the facilities and support throughout our project work. Whatever we have done is only due to such guidance and assistance and we would not forget to thanks them.

It is immense pleasure to express our deep sense of thanks and gratitude to our mentor and guide **Mr. Amit Sarda**. His dedication and keen interest above all his overwhelming attitude to help his students had been solely and mainly responsible for completing our project work.

We convey our regards and gratitude to **Rev. Dr. Fr. P. S. Varghese,** Executive Vice Chairman, for his moral support and inspirations throughout the endeavour of our project work.

We owe a deep sense of thanks and gratitude to **Dr. Dipali Soren**, Principal, CCET, Bhilai, for her continuous motivation and guidance throughout our work in CCET.

We express our gratitude and regards to our Head of the Department **Dr. Radheshyam H. Gajghat** for his interrupted support and guidance at every stage of our project work. We are also very much grateful to our Project Coordinator **Mr. Amit Sarda** for his prompt inspiration, timely suggestion with kindness and enthusiasm to complete our project work.

Last but not the least we are very much thankful to **all the faculties and staff members of the Department of Mechanical Engineering** who have helped us directly or indirectly to complete our project work as a whole.

Deepak Kumar
(301103720300)

Himanshu Tamrakar
(301103720301)

Seeyon Kumar
(301103720302)

ABSTRACT

Groundnut is the sixth most important oilseed crop in the world and it is belonging to beans family. Shelling is a fundamental step in groundnut processing and it can be done by hand or machines. Hand shelling process is labour intensive, slow and tiresome. Numbers of groundnut Sheller machines are available in the market but they are large in size, costly and not suitable for domestic applications, they are best suitable for industrial applications where mass production is required. Hence it is essential to design and fabricate a portable groundnut Sheller machine for domestic application.

In India, most of land use for agricultural purpose which produces semi-finished product or goods. Groundnut also one of the agricultural semi-finished goods. Groundnut is grown on small scale farmers in developing countries like India. The average kernel price is approximately twice the price of pod. Lack of groundnut processing machines, especially groundnut Sheller, is a major problem of groundnut production, especially in our country India. In the beginning the peanuts were separated from its shells by the workers. They simply decoct the groundnut by their hands and separate the peanuts from its shell. The output got from this method, was very low and it does not fulfill the market demand because it was very time-consuming process. A research-work for design, fabricate, and performance evaluation of a groundnut Sheller consisting of feed hopper with a flow rate control device, shelling unit, separating unit and power system. The performance of the machine was evaluated in terms of throughput capacity, shelling efficiency, material efficiency and mechanical damage. Regression models that could be used to express the relationship existing between the Sheller performance indices, pod moisture content and feed rate were establish. This paper describes about the design and fabrication of various components of groundnut Sheller machine. Hence in this design of various parts are necessary, and design of various parts due to which the design quality of those parts will be improved. Overall, this project involves processes like design, fabrication and assembling of different components etc.

Keywords: Groundnut, pods, shelling machine, design methodology, efficiency, fabrication

A Project Report on

Design of Multifunctional Ladder Chair

Submitted to

Chhattisgarh Swami Vivekananda Technical University
Bhilai (C.G.), India
In partial fulfilment of the award of degree
BACHELOR OF TECHNOLOGY
in
MECHANICAL ENGINEERING

Submitted by
Shivnath Gota (301103719008)
Robins Jacob John (301103719004)

Under the Guidance of
Asst. Prof. Chandra Shekhar Sahu
Professor, Department of Mechanical Engineering

DEPARTMENT OF MECHANICAL ENGINEERING
CHRISTIAN COLLEGE OF ENGINEERING & TECHNOLOGY
Kailash Nagar, Industrial Estate P.O., Bhilai – 490026
SESSION 2022-2023

DECLARATION BY THE CANDIDATES

We, the undersigned solemnly declare that the report of the project entitled as **"Design of Multifunctional Ladder Chair"** is based on our own work which has been carried out under the supervision of **Mr. Chandra Shekhar Sahu,** Associate Professor, Department of Mechanical Engineering.

We assert that the statements made and the conclusions drawn are an outcome of our project work. We further certify that

i. The work contained in the project is original and has been done by us under the general supervision of our supervisor.

ii. The work has not been submitted to any other institute for any other degree/diploma/ certificate in this university or any other University of India or abroad.

iii. We have followed the guidelines provided by the University for writing the project.

iv. We have conformed to the norms and guidelines given in the concerned Ordinance of the University.

v. Whenever we have used material (data, theoretical analysis, and text) from other sources, we have given due credit to them by citing them in the text of the project and giving their details in the references.

vi. Whenever we have quoted written materials from the other sources, we have put them under quotation marks and have given due credit to the sources by citing them and giving required details in the references.

Shivnath Gota (301103716025)

Robins Jacob John (301103719004)

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CERTIFICATE FROM THE SUPERVISOR

This is to certify that the work incorporated in the project, entitled as **"Multifunctional Ladder Chair"** is a record of project work carried out by **Shivnath Gota (301103719008), Robins Jacob John (301103719004),** under my guidance and supervision for the award of the Degree of **Bachelor of Technology** in the faculty of **Mechanical Engineering** of Chhattisgarh Swami Vivekananda Technical University Bhilai, Chhattisgarh, India.

To the best of my knowledge and belief the project

(i) Embodies the work of the candidates themselves,

(ii) Has duly been completed,

(iii) Fulfills the requirement of the ordinance relating to the B.Tech degree of the University and

(iv) Is up to the desired standard both in respect of contents and the language for being referred to the examiners.

(v)

07.06.23

Mr. Chandra Shekhar Sahu
Professor

Department of Mechanical Engineering
Christian College of Engineering and Technology, Bhilai

Forwarded to Chhattisgarh Swami Vivekananda Technical University, Bhilai

07/06/2023

Dr. Radheshyam H. Gajghat

Professor & Head

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Principal

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Criterion 1

QnM 1.3.2 Project work/field work/ Internships

CERTIFICATE FROM THE EXAMINERS

The thesis entitled as **"Design and Development of Multifunctional ladder Chair"**, submitted by **Shivnath Gota (301103719008), Robins Jacob John (301103719004)**, has been examined by the undersigned as a part of the examination and is hereby recommended for the award of the degree of **Bachelor of Technology**.

Internal Examiner
Date: 08/06/23

External Examiner
Date: 08/06/23

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ACKNOWLEDGEMENT

We found ourselves pleased to have an opportunity to express the help rendered to us by all concerned with successful completion of the work. The success and final outcome of this project required a lot of guidance and assistance from many people and we are extremely fortunate to have all the facilities and support throughout our project work. Whatever we have done is only due to such guidance and assistance and we would not forget to thanks them.

It is immense pleasure to express our deep sense of thanks and gratitude to our mentor and guide of **Mr. Chandra Shekhar Sahu** His dedication and keen interest above all his overwhelming attitude to help his students had been solely and mainly responsible for completing our project work.

We convey our regards and gratitude to **Rev.Fr.Dr. P.S. Varughese,** Executive Vice Chairman, **for** his moral support and inspirations throughout the endeavour of our project work.

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We express our gratitude and regards to our Head of the Department **Dr. Radheshyam H. Gajghat** for his interrupted support and guidance at every stage of our project work. We are also very much grateful to our Project Coordinator **Mr. Chandra Shekhar Sahu** for his prompt inspiration, timely suggestion with kindness and enthusiasm to complete our project work.

Last but not the least we are very much thankful to **all the faculties and staff members of the Department of Mechanical Engineering** who have helped us directly or indirectly to complete our project work as a whole.

Shivnath Gota (301103719008)

Robins Jacob John (301103719004)

ABSTRACT

The invention relates to furniture, and especially relates to a multifunctional ladder chair. A technical problem to be solved is providing a multifunctional ladder chair having functions ofa ladder, a chair and a deck chair.

The multifunctional ladder chair has the advantages of convenient transition among various functions, safety, reliability, economy, utility, beauty, comfortableness, and convenient dismounting and transportation.

The chair legs and the backrest columns of the multifunctional ladder chair adopt multilayer tubes. When the multifunctional ladder chair is used as a chair, inner tubes shrink in; and when the multifunctional ladder chair is used as a ladder, the inner tubes stretch, a chair surface is lifted to a proper height, and the backrest columns are lifted to become reliable armrests, so the problems of tumble and fear of height are solved. The multifunctional ladder chair is beautiful, comfortable and utile as a chair, has no influences in any corner of a room, and solves a problem of the storage of the furniture at normal time.

The backrest angle can be adjusted, so the multifunctional ladder chair can also be used as a deck chair, a clothes horse or a flower stand. The multifunctional ladder chair having multiple functions saves the household expenditure, occupies small land, saves the raw materials of the society, and accords with low carbon and economy principles.

A Project Report on

"DESIGN & FABRICATION OF BELT-TYPE OIL SKIMMER"

Submitted to

Chhattisgarh Swami Vivekananda Technical University
Bhilai (C.G.), India

In partial fulfilment for the award of degree
BACHELOR OF ENGINEERING
in
MECHANICAL ENGINEERING

Submitted by

Roshan Roy (301103719005)

Sharon Suryavanshi (301103719007)

Akhil Anu Abraham (301103719010)

Under the Guidance of

Dr. Srinivasa Rao Pulivarti

Professor, Department of Mechanical Engineering

DEPARTMENT OF MECHANICAL ENGINEERING
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SESSION 2022-2023

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DECLARATION BY CANDIDATES

We, the undersigned solemnly declare that the report of the thesis work entitled **"Design & Fabrication of Belt-Type Oil Skimmer"** is based on our own work carried out during the course of our study under the supervision of **Dr. Srinivasa Rao Pulivarti.**

We assert that the statements made and conclusions drawn are an outcome of our research work. We further declare that to the best of our knowledge and belief the report does not contain any part of any work which has been submitted for the award of M.Tech degree or any other degree/diploma/certificate in this University or any other University of India or abroad.

Sharon Suryavanshi

Roll No.: 301103719007

Enrollment No.: BI1513

Roshan Roy

Roll No.:301103719005

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Akhil Anu Abraham

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Date: 2023.11.05 10:15:40 +05'30'

CERTIFICATE BY THE SUPERVISOR/S

This is to certify that the work incorporated in the thesis **"Design & Fabrication of Belt-Type Oil Skimmer"** is a record of research work carried out by Roshan Roy bearing Roll No.: 301103719005, Sharon Suryavanshi bearing Roll No.: 301103719007, Akhil Anu Abraham bearing Roll No.: 301103719010 under my guidance and supervision for the award of Bachelor of Technology in Mechanical Engineering of Chhattisgarh Swami Vivekanand Technical University, Bhilai (C.G.), India.

To the best of my knowledge and belief the thesis

i) Embodies the work of the candidate him/herself

ii) Has duly been completed

iii) Fulfils the requirement of the Ordinance relating to the B.Tech degree of the University and

iv) Is up to the desired standard both in respect of contents and language for being referred to the examiners.

(Signature of the Supervisor)
Dr. Srinivasa Rao Pulivarti
Professor, Department of Mechanical Engineering

Forwarded to Chhattisgarh Swami Vivekanand Technical University
Bhilai

Principal
Christian College of Engg.
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(Signature of the Head of the Approved Place of Research)(Seal of the Approved Place of Research)

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CERTIFICATE BY THE EXAMINERS

The Thesis entitled **"Design & Fabrication of Belt-Type Oil Skimmer"** Submitted by Roshan Roy (Roll No.: 301103719005), Sharon Suryavanshi (Roll No.: 301103719007), Akhil Anu Abraham (Roll No.: 301103719010) has been examined by the undersigned as a part of the examination and is hereby recommended for the award of B.Tech Degree in Mechanical Engineering of Chhattisgarh Swami Vivekanand Technical University, Bhilai.

Internal Examiner
Date: 08/06/23

External Examiner
Date: 08/06/23

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ACKNOWLEDGEMENT

The success of any project depends largely on the encouragement and guidance of many others. We take this opportunity to express my gratitude towards our guide Dr. Srinivasa Rao Pulivarti, Professor, Department of Mechanical Engineering without whom this project would nnot have been possible. It has been a pleasure to have worked under his supervision. We would like to show our appreciation to Principal Dr. Dipali Soren. Without their encouragement and guidance this project would not have materialized.

Last but not the least, We would like to thank Sajjoo Sir for this help and guidance during the fabrication process and we also thank all other staffs for their everlasting support.

Sharon Suryavanshi
Roll No.: 301103719007
Enrollment No.: BI1513

Roshan Roy
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ABSTRACT

To separate the mixed oil from the water, industries wide various type of oil skimmers is getting used. Herewith, the objective of this project is to design and conduct efficiency studies of belt type oil skimmer by using various materialed belts. The belts absorb the oil from water which can be scooped out and collect into a vessel by providing piping arrangements.

Pollution has created lot of problem to the environment. By removing the oil from the water, it becomes free of oil pollutions oil skimmer are commonly found in two type's oleophilic and non-oleophilic. The oleophilic skimmer are distinguished as not by their operations but while the component used to collect oil are belt, rope or drum. It can remove even a thin floating film of oil from water. This is mainly due to elastomer synthetic fiber material of belt. In belt type oil skimmer, the belt absorbs the oil from water which can be scooped out and collect into a storage tank. Hence this stored oil can be reused for many purposes. It was found from the research that oil removal rate based on the properties and quantity of oil present in the water.

This project provides method for increasing efficiency of oil skimmer by using marine ply disc and scrapper to prevent marine pollution by oil spill. It also provides information and methods on how it can be used in various industries to separatethe oil water mixture. Improvements in design and equipment's through which efficiency can be increased have also been provided through this technical paper. The results and conclusions acquired by using Belt-Type Oil skimmer have been provided through this technical Project.

Key Words:- Oil spillage, offshore Drilling& production, Aquatic life, Oil skimmer.

Wireless charger using solar panel

A Thesis submitted

to

CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY

BHILAI (C.G.), India

In partial fulfillment

For the award of the Degree

of

Master of Technology

In

High Voltage Engineering

By

AKASH KUMAR YADAV

Under the guidance of

Dr. Shailendra Verma

Assistant Professor

High Voltage Electrical Engineering

Christian College of Engineering & Technology Bhilai

Session 2021-2023

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Certificate by the Examiners

The Thesis entitled" Wireless charger using solar panel"

Submitted by (Roll No. 501101021002 Enrollment No. AM9670)

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Internal Examiner
Date: 06/04/2023

External Examiner
Date: 06/04/2023

DIPALI SOREN TUDU
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Abstract:

This paper presents the design and implementation of a solar-powered wireless charger, aimed at providing an eco-friendly and sustainable solution for charging mobile devices. The system utilizes a high-efficiency solar panel to harness renewable solar energy and converts it into electrical power. The harvested energy is then wirelessly transmitted to compatible devices using Qi wireless charging technology. The proposed system offers a portable and convenient charging option for smartphones, tablets, and other wireless charging-enabled gadgets, reducing the dependence on conventional electricity sources and contributing to the reduction of carbon emissions. The study includes an analysis of the solar panel's performance, wireless charging efficiency, and practicality for everyday usage. The findings demonstrate the viability of the solar-powered wireless charger as a promising green alternative for charging mobile devices, especially in outdoor and off-grid scenarios, promoting sustainability and environmental

In this study, we present the development and evaluation of a solar-powered wireless charger as an eco-friendly and energy-efficient solution for charging mobile devices. The system incorporates a photovoltaic solar panel, which efficiently converts solar energy into electrical power. Through an advanced wireless charging mechanism, this harvested energy is transmitted to compatible devices using the widely adopted Qi wireless charging standard. We explore the design considerations, efficiency, and practicality of the solar charger in various lighting conditions and charging scenarios. Additionally, a comparison with conventional wired charging methods is conducted to assess its sustainability benefits. Our results indicate that the solar-powered wireless charger offers a promising alternative, reducing dependency on traditional power sources and contributing to environmental preservation by utilizing clean, renewable energy. This work highlights the potential of solar-powered wireless charging as a viable and eco-conscious option for meeting the escalating energy demands of mobile devices in a sustainable manner.

Dynamics and Stability of Meshed Multi terminal HVDC Networks

A Thesis submitted

To

CHHATTISGARH SWAMI VIVEKANAND TECHNICAL

UNIVERSITY

BHILAI (C.G.), India

In partial fulfilment

For the award of the Degree

Of

Mater of technology

In

High Voltage Engineering

By

AATIFA FATIMA

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Session 2021-2023

Certificate by the Examiners

The Thesis entitled "Dynamic and Stability of Meshed multi terminal HVDC Networks"

Submitted by (Roll No. 501101021004 Enrollment No. CB3359

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Shafaka

Internal Examiner

Date: 06/04/2023

External Examiner

Date: 06/04/2023

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ABSTRACT:

In multi-terminal HVDC grids, this work explores if an equilibrium point exists, evaluates its uniqueness, and specifies parameters to guarantee its stability. As a testing instance, an offshore multi-terminal HVdc system with two wind farms has been selected. To begin, a multigraph theory-based generalised dynamic network model is developed. Using droop regulation, this nonlinear model captures the frequency dependence of transmission lines and cables and presents a reasonable degree of simplifications for modular multilevel converters under specific conditions, allowing system level investigations over potentially huge networks to be conducted. The banach fixed point theorem, which is based on this model, can be used to show that the equilibrium point exists and is unique. Krasovskii's theorem is used to derive a Lyapunov function for the stability of the equilibrium. The existence and stability of the equilibrium point is confirmed by the results of computations on the selected four-terminal HVDC grid.

Energy audit of a pump set

A Thesis submitted
To

CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY
BHILAI (C.G.), India

In partial fulfillment
For the award of the Degree
of
Master of Technology
in
Dr. Shailendra Verma
by

Nikita Tigga
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Session : Nov-Dec 2022

Certificate by the Examiners

The Thesis entitled "Energy Audit of a Pump Set"

Submitted by (Roll No.: 501101021007 Enrollment No BA6919)

has been examined by the undersigned as a part of the examination and is hereby recommended for the award of the degree of Master of Engineering/Technology in the faculty of Chhattisgarh Swami Vivekanand Technical University, Bhilai.

Internal Examiner

Date: 06/04/2023

External Examiner

Date: 06/04/2023

DIPALI SOREN TUDU

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Date: 2023.11.05 10:23:07 +05'30'

Abstract

The study involves an energy audit of Pumps used to pump fluid from lower level to higher level by usingelectrical energy. A case study was conducted on centrifugal pumps at Water treatment plant,series of energy audit was conducted to record various parameters viz., discharge, pressure, voltage, current, power, powerfactor and efficiencies to calculate the total electrical energy consumption per day and total actual energy use per day,maximum (VA)demand, maximum (KW) demand, consumption figures of the whole pump in the plant, energy costfigures of the plant in (KWh), where we discovered very high energy wastage during operation .Therefore ways to reduceenerg y consumption by the replacement of the present pumps with inverter compatible energy efficient pumps and various conservation methods are recommended for optimum. utilization, this study will help other pumping stations.

The current paper aims at presenting a standardized auditing scheme for assessing energy efficiency in water supply systems. The main innovation in this scheme is the direct link to the water auditing in order to encourage water utilities to carry out the joint management of water losses and related energy efficiency. Key energy efficiency indices are calculated based on the energy auditing without the need of using hydraulic modelling. Two case-studies are explored and discussed. This paper shows that specific energy consumption and pump efficiency are not sufficient to evaluate the energy efficiency of a given system.

DIPALI SOREN TUDU

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Energy Auditing on Distribution System

A Thesis submitted
to

CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY
BHILAI (C.G.), India

In partial fulfillment
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of

Master of Technology

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Session: 2022-23

Certificate by the Examiners

The Thesis entitled" Energy Auditing On Distributuon System

Submitted by (Roll No.: 501101021008 Enrollment No. AO4112

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Internal Examiner

Date: 06/04/2023

External Examiner

Date: 04/04/2023

DIPALI SOREN TUDU

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Abstract

Energy Audit is the key to a methodical approach for decision-making in the area of energy management. The energy management is necessary for procurement and utilization of energy through optimum management, throughout the area. Energy Management and Energy Audit is conducted to save money by saving the energy for different sort of industries, institution, hospitals, domestic areas, etc., under the recommendations given by the energy audit team. These management and audit teams find out the areas, where there is wastage of electricity and implements the effective and proper use of energy. Through efficient energy management and auditing methods, environment can be protected; energy and money can be saved without affecting the natural and quality ongoing work in any sectors. This paper briefly describes about importance of energy audit and energy management in and around our place of living

Electric utilities in India are facing the pressure of reducing costs and improving the quality and reliability of supply. Though the generation and transmission systems have been considerable technical development and capital investment, the distribution systems been neglected and suffered due to poor operating efficiencies leading to high losses. The work is aimed at Energy Auditing of 11kV Distribution Feeder and preparing perfect energy balance sheet of 11kV Distribution Feeder with recommendations to improve overall efficiency of the system

DIPALI SOREN TUDU

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Date: 2023.11.05 10:25:47 +05'30'

ENERGY AUDIT OF COMMERCIAL BUILDING

A Thesis submitted

to

CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY

BHILAI (C.G.), India

In partial fulfillment

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Master of Technology

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The Thesis entitled" Energy Audit of Commercial Building

Submitted by (Roll No. 501101021005 Enrollment No CB3360

has been examined by the undersigned as a part of the examination and is hereby recommended for the award of the degree of Master of Engineering/Technology in the faculty of Chhattisgarh Swami Vivekanand Technical University ,Bhilai

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Date 06/04/2023

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Date 06/04/2023

DIPALI SOREN TUDU

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Date: 2023.11.05 10:27:07 +05'30'

Abstract

A commercial Energy Audit is performed to understand energy usage patterns in commercial buildings to reduce an organization's carbon footprint, ensure compliance, and promote an overall healthy environment. Electricity is an essential part of our daily lives. Because only a limited number of resources may be used to generate electricity, these resources or electricity must be saved for future use. This is only possible if energy is used as effectively as possible. Energy auditing is critical for both sustainable development and energy conservation. In this article, a report how to do energy audit of building is submitted. An Energy Audit can be simply defined as a process of evaluating a building for the usage of electricity and identifying the opportunities to reduce consumption. Project should be developed and implemented in a structured and efficient way, requiring good Energy Auditing and project management methods and tools. The Energy Conservation Building Code (ECBC) has been modified extensively over the years, starting from its initial deployment in year 2011 to its latest modifications in year 2019. The Energy Conservation Standards in ECBC apply to building envelope, heating ventilation, air conditioning, lightning, service water heating and electric power distribution. By conducting an investigation of energy consumption, the energy audit focuses mainly on equipment consumption, especially on air conditioning system, electronic equipments, lightning system, and elevators etc. The energy management is necessary for procurement and utilization of energy through optimum management, throughout the area.

Energy management and energy audit is conducted to save money by saving the energy for different sort of industries, institution, hospitals, domestic area etc. under the recommendations given by the energy audit team. These management and audit teams find out the areas where there is wastage of electricity and implements the effective and proper use of energy. Through efficient energy management and auditing methods, environment can be protected, energy and money can be saved without affecting the natural and quality Ongoing work in any sectors. The Energy Audit provides the vital information base for overall energy conservation program covering essentially energy utilization analysis and evaluation of energy conservation measures. Various energy audits have been undertaken at various places and the results are evaluated in the literature. This paper tries to observe, infer ,and analyze the patterns of energy usage of a commercial building and various measures to reduce energy consumption and cost saving. A case study is included to analyze the reduction in consumption of energy per unit to make building energy efficient. A feasible study is executed to observe the increments in costs . Calculations for auditing will reduce the building's carbon footprint and benefit owners in the form of cost savings in long run.

DIPALI SOREN TUDU

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Date: 2023.11.05 10:27:52 +05'30'

Energy Audit of High Efficient Transformer

A Thesis submitted

to

CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY

BHILAI (C.G.), India

In partial fulfillment

For the award of the Degree

of

Master of Technology

in

High Voltage Engineering

by

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Kailash Nagar Bhilai

Session: 2021-2023

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The Thesis entitled" Energy Audit of High Efficient Transformer

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Date: 06/04/2023

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Date: 06/04/2023

DIPALI SOREN TUDU

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Abstract

The requirement for managing Distribution system continue to present new challenges. Electricity is one of the most vital infrastructure inputs for Economic development of a country. To balance this demand and supply of electricity, it is the time for electric utilities to go for energy efficient equipment for huge saving as this would be utilized for future needs. Therefore, Great effort has been directed to increasing the efficiency of Distribution transformers and consequently reducing the losses and, hence the operational costs.

Audit means gathering and collecting Information in a specially designed, "Energy system questionnaire" formate, for the industry under study. Inter and intra -industry comparison of the collected data. Assessment of present efficiency index for energy consumption in the process. In depth study of plant operation, equipment and systems for the energy systems to assess the operational efficiency and potential for economising. Evaluation of the detailed recommendations for energy saving, formulation of detailed action plans in consultation with plant management of the identified energy saving measures. Training operating personnel in the specifics of energy conservation to enable them to implement the recommendations and also to monitor the progress on a periodic basis.

In an energy audit of a power Distribution system, the energy losses are to be computed for each element of the Network on the basis of actual energy sent out and actual consumption as recorded by the meter installed on both side of element. It may not possible to conduct energy audit for the entire power system of a utility in on go. Hence it may have to be conducted in stages. 1) Assessing load factor and loss load factor in which copper loss of all transformer is calculated.
2) Distribution transformer losses in which No-load i.e. iron losses is calculated.
3) Calculation of LT line and Network losses are calculated and many more.
These values are compared with the ideal transformer efficient tables at same rating.

DIPALI SOREN TUDU
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Continues Online PD Monitoring for HV Cables

A Thesis submitted

To

CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY

BHILAI(C.G.),INDIA

In partial fulfillament

For the award of the Degree

Of

Master of Technology

In

High Voltage Engineering

By

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Session : 2022-2023

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The Thesis entitled" Continuous Online PD Monitoring for HV cables

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Internal Examiner

Date: 06/04/2023

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Date: 04/04/2023

DIPALI SOREN TUDU

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Abstract

This paper discusses data acquisition, transmission and processing methodologies for continuous on-line monitoring of partial discharges in high voltage cable systems. A PD continuous on-line monitoring system for underground cable circuits using capacitive couplers, LiNbO3 electro-optic modulators, laser, optical switch and optical fibers has been developed. Future research will consider effective data processing methods that will allow continuous monitoring of asset health and possibly facilitate lifetime prediction

The most effective method of monitoring insulation condition in high voltage distribution cables is by continuous on-line partial discharge monitoring. However, on-site partial discharge measurement sensitivity can be limited by high levels of interference which can make it difficult to obtain and interpret adequate PD data for insulation assessment purposes. Differential circuit methods can be used to reject common mode interference but for high frequency non-conventional PD methods the standard balanced circuit will not produce satisfactory noise-free results, especially for medium or longer length power cables. A software based differential technique has been developed and has proved effective for on-line PD monitoring of power cables. The method gives good interference rejection and the sensitivity is suitable for assessment of both extruded and paper insulated cablesIn most insulation materials the dielectric deterioration is normally accompanied by partial discharge (PD) activity and thus PD monitoring is the most effective and sensitive assessment method available. PD measurement is thus now very widely used for insulation condition monitoring in all items of high voltage equipment. :Smart Grid concept substantially increases the power measurement need in the future for efficient and guaranteed power delivery. The medium voltage (MV) cable is an important asset of a distribution network and it must guarantee a stable operation of the supply. With the increasing age of the underground MV cables in power grids, the accident and failure arising from insulation degradation is becoming one of the main challenges against power system reliability. It is also essential economically to extend the life span of the medium voltage cable. Continuous on-line partial discharge (PD) monitoring is an excellent way to determine the overall health of the MV components and to detect incipient faults in underground cables. However, continuous on-line PD monitoring is not widely used primarily because no adequate cost-effective solution is available for permanent installation. This paper presents the development of a versatile solution for continuous on-line PD monitoring of MV cables at secondary substation. The laboratory tests and data analysis exhibit the capability of the proposed system to detect PD signals successfully.

Energy Audit as a Tool for Improving System Efficiency in Industrial Sector

A Thesis submitted

to

CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY

BHILAI (C.G.), India

In partial fulfillment

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of

Master of Technology

In

High Voltage Engineering

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Session 2021-2023

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The Thesis entitled" Energy Audit as a tool for improving system efficiency in industrial sector

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Internal Examiner

Date: 06/04/2023

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Date: 06/04/2023

DIPALI SOREN TUDU

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ABSTRACT

This paper presents the characteristics of energy consumption in industrial sector, the methodology and results of energy audits (EA) performed in industrial sites and potentials for energy efficiency (EE) improvements. The present state of industrial energy in India could be characterized by significant technological out-of–date, low energy efficiency and low level of environmental protection. Presented analysis of the results of conducted energy audits in selected industrial companies in previous period has shown the significant potentials for energy efficiency improvements in industrial sector (upgrading or replacement of equipment in the industrial energy sources and processes, introduction of energy management, improvement of steam supply and condensate return systems, the waste heat utilization, introduction of energy efficiency technology, improvement of energy efficiency in electrical equipment, usage of waste materials etc).

Energy audit is an inspection, survey and analysis of energy flows for energy conservation in a building, process or system to reduce the amount of energy input into the system without affecting the output. Obtains an adequate knowledge of existing energy consumption profile of the site.

KEYWORDS- Energy Audit; Industrial sector; Energy Efficiency

Online MVAr Control in High Voltage Transmission System

A Thesis submitted

To

CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY BHILAI (C.G.), India

In partial fulfillment

For the award of the degree

of

Master of Technology

in

High Voltage Engineering

by

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Kailash Nagar, Bhilai

Session: 22-23

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Certificate by the Examiners

The Thesis entitled "Online MVAr Control in High Voltage Transmission System
Submitted by (Roll No. 50110/021/001 Enrollment No. CB3361)
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Internal Examiner
Date: 06/04/2023

External Examiner
Date: 06/04/2023

DIPALI SOREN TUDU
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Abstract: The output generated from a generating station has basically two complex components, active power and the reactive power.But it is general assumption that the only the active power is the working power and it is the output for which everyone is paying for, thus the VAR component neglected and unwanted by everyone alike. But it is also true that, wherever there is active power, there will always be reactive power and it is critical not only in transfer of active power but also in the driving of the inductive loads like motors ,residential loads etc. As such, there is no option to eliminate the reactive power but it can be mitigated to control the voltage and to reduce the load on the transmission lines.

Active power (MW) is controlled only by the prime mover and the reactive power is controlled by the automatic voltage regulator (AVR) , which creates field in the rotor to develop the flux as per the design of machine.There are various other external methods to control the reactive power (MVAr) in HV Grid.

The generated voltage and power is delivered through long transmission line ,the voltage at each point of the transmission line is calculated by the reactive power absorbed in the line.If the voltage is increased/overvoltage conditions, then suitable inductive compensators need to be placed which absorbs the excess reactive power and if voltage is decreased/dip, then suitable capacitive compensators need to be placed which supply/pump reactive power to maintain the voltage level at the load end. This paper, delibrates about the online MVAr compensation in HV Grid to maintain the generated voltage in the transmission lines without effecting the active power transfer.

Optimal Design of Pressure Vessels for Enhanced Boiler Performance

A Summary Report submitted to

Chhattisgarh Swami Vivekananda Technical University

Bhilai (C.G.), India

For the Award of the Degree

of

MASTER OF TECHNOLOGY

in

CAD/CAM-ROBOTICS

by

Rupesh Kumar Singh
Enrollment No: CB3364

Under the guidance of

Dr. R. H. Gajghat

Associate Professor, Department of Mechanical Engineering

DEPARTMENT OF MECHANICAL ENGINEERING

CHRISTIAN COLLEGE OF ENGINEERING & TECHNOLOGY

Kailash Nagar, Industrial Estate P.O., Bhilai - 490026

Session 2021-23

DECLARATION

I, the undersigned solemnly declare that the report of the summary entitled as "**Optimal Design of Pressure Vessels for Enhanced Boiler Performance**" is based on my own work which has been carried out under the supervision of **Prof. Amit Sarda**, Associate Professor, Department of Mechanical Engineering.

I emphasize that the statements made and the conclusions drawn are outcomes of my research work. I further certify that:

i. The work contained in the summary is original and has been done by me under the general supervision of my supervisors.

ii. The work has not been submitted to any other institute for any other degree/M.Tech/certificate in this university of India or abroad.

iii. I have followed the guidelines provided by the university for writing the summary.

iv. I have conformed to the norms and guidelines given in the concerned ordinance of the university.

v. Whenever I have used material (data, theoretical analysis, and text) from other sources, I have given due credit to them in the text of the summary and they are cited in the references.

vi. Whenever I have quoted written materials from the other sources, I have put them under quotation marks and have given due credit to the sources by citing them and giving required details in the references.

(Signature of the Supervisor)

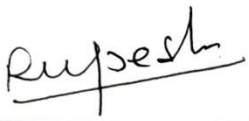
Dr. R. H. Gajghat

Professor

Department of Mechanical Engineering

Christian College of Engineering and Technology,

Bhilai



(Signature of the Candidate)

Rupesh Kumar Singh

Roll No.: 501105821002

Enrolment No.: CB3364

DIPALI SOREN TUDU

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CERTIFICATE FROM THE EXAMINERS

The thesis entitled as "**Optimal Design of Pressure Vessels for Enhanced Boiler Performance**", submitted by **Rupesh Kumar Singh, Roll No: 501105821002** and **Enrollment No: CB3364,** has been examined by the undersigned as a part of the examination and is hereby recommended for the award of the degree of Master of Technology.

Internal Examiner
Date: 06/04/23
Mr. Amit Sarda

External Examiner
Date:

DIPALI SOREN TUDU
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Date: 2023.11.05 10:41:08 +05'30'

Design Optimization of Adaptive MacPherson Strut using Comparative Analysis of Particle Swarm and Genetic Algorithm Techniques with ANSYS Simulation

A Summary Report submitted to

Chhattisgarh Swami Vivekananda Technical University

Bhilai (C.G.), India

For the Award of the Degree

of

MASTER OF TECHNOLOGY

in

CAD/CAM-ROBOTICS

by

ROBIN BABU
Enrollment No: CB3362

Under the guidance of

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Associate Professor, Department of Mechanical Engineering

DEPARTMENT OF MECHANICAL ENGINEERING

CHRISTIAN COLLEGE OF ENGINEERING & TECHNOLOGY

Kailash Nagar, Industrial Estate P.O., Bhilai - 490026

Session 2021-23

DECLARATION

I, the undersigned solemnly declare that the report of the summary entitled as **"Design Optimization of Adaptive MacPherson Strut using Comparative Analysis of Particle Swarm and Genetic Algorithm Techniques with ANSYS Simulation"** is based on my own work which has been carried out under the supervision of **Prof. Amit Sarda**, Associate Professor, Department of Mechanical Engineering.
I emphasize that the statements made and the conclusions drawn are outcomes of my research work. I further certify that:

i. The work contained in the summary is original and has been done by me under the general supervision of my supervisors.

ii. The work has not been submitted to any other institute for any other degree/M.Tech/certificate in this university of India or abroad.

iii. I have followed the guidelines provided by the university for writing the summary.

iv. I have conformed to the norms and guidelines given in the concerned ordinance of the university.

v. Whenever I have used material (data, theoretical analysis, and text) from other sources, I have given due credit to them in the text of the summary and they are cited in the references.

vi. Whenever I have quoted written materials from the other sources, I have put them under quotation marks and have given due credit to the sources by citing them and giving required details in the references.

(Signature of the Supervisor)

Dr. P. S. Rao

Associate Professor

Department of Mechanical Engineering

Christian College of Engineering and Technology,
Bhilai

(Signature of the Candidate)

Robin Babu

Roll No.: 501105821003

Enrolment No.: CB3362

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 10:42:47 +05'30'

CERTIFICATE FROM THE EXAMINERS

The thesis entitled as "**Design Optimization of Adaptive MacPherson Strut using Comparative Analysis of Particle Swarm and Genetic Algorithm Techniques with ANSYS Simulation**", submitted by **Robin Babu, Roll No: 501105821003** and **Enrollment No: CB3362,** has been examined by the undersigned as a part of the examination and is hereby recommended for the award of the degree of Master of Technology.

Internal Examiner
Date: 06/04/23
Mr. Amit Sarda

External Examiner
Date: 06/04/23
Mr. Vicky Kumar

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 10:43:31 +05'30'

Optimization of Helical Gear Performance for Improved Energy Efficiency

A Summary Report submitted to

Chhattisgarh Swami Vivekananda Technical University

Bhilai (C.G.), India

For the Award of the Degree

of

MASTER OF TECHNOLOGY

in

CAD/CAM-ROBOTICS

by

Justin Chacko Pulicktharayil
Enrollment No: CB3363

Under the guidance of

Prof. Chandrashekar Sahu

Associate Professor, Department of Mechanical Engineering

DEPARTMENT OF MECHANICAL ENGINEERING

CHRISTIAN COLLEGE OF ENGINEERING & TECHNOLOGY

Kailash Nagar, Industrial Estate P.O., Bhilai - 490026

Session 2021-23

DECLARATION

I, the undersigned solemnly declare that the report of the summary entitled as "**Optimization of Helical Gear Performance for Improved Energy Efficiency**" is based on my own work which has been carried out under the supervision of **Prof. Amit Sarda**, Associate Professor, Department of Mechanical Engineering.

I emphasize that the statements made and the conclusions drawn are outcomes of my research work. I further certify that:

i. The work contained in the summary is original and has been done by me under the general supervision of my supervisors.

ii. The work has not been submitted to any other institute for any other degree/M.Tech/certificate in this university of India or abroad.

iii. I have followed the guidelines provided by the university for writing the summary.

iv. I have conformed to the norms and guidelines given in the concerned ordinance of the university.

v. Whenever I have used material (data, theoretical analysis, and text) from other sources, I have given due credit to them in the text of the summary and they are cited in the references.

vi. Whenever I have quoted written materials from the other sources, I have put them under quotation marks and have given due credit to the sources by citing them and giving required details in the references.

(Signature of the Supervisor)

Prof. Chandrashekar Sahu

Associate Professor

Department of Mechanical Engineering

Christian College of Engineering and Technology,

Bhilai

(Signature of the Candidate)

Justin Chacko Pulicktharayil

Roll No.: 501105821005

Enrolment No.: CB3363

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 10:45:28 +05'30'

CERTIFICATE FROM THE EXAMINERS

The thesis entitled as "**Optimization of Helical Gear Performance for Improved Energy Efficiency**", submitted by **Justin Chacko Pulicktharayil, Roll No: 501105821005** and **Enrollment No: CB3363,** has been examined by the undersigned as a part of the examination and is hereby recommended for the award of the degree of Master of Technology.

Internal Examiner
Date: 06/04/23
Mr. Amit Sarda

External Examiner
Date: 06/04/23
Mr. Vicky Kumar

DIPALI SOREN TUDU
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Date: 2023.11.05 10:46:38 +05'30'

Finite Element Analysis and Topology Optimization of Upper Arm of Double Wishbone Suspension

A Summary Report submitted to

Chhattisgarh Swami Vivekananda Technical University

Bhilai (C.G.), India

For the Award of the Degree

of

MASTER OF TECHNOLOGY

in

CAD/CAM-ROBOTICS

by

RISHABH TAMRAKAR
Enrollment No: AM9527

Under the guidance of

Dr. R. H. Gajghat

Associate Professor, Department of Mechanical Engineering

DEPARTMENT OF MECHANICAL ENGINEERING

CHRISTIAN COLLEGE OF ENGINEERING & TECHNOLOGY

Kailash Nagar, Industrial Estate P.O., Bhilai - 490026

Session 2021-23

DECLARATION

I, the undersigned solemnly declare that the report of the summary entitled as "**Finite Element Analysis and Topology Optimization of Upper Arm of Double Wishbone Suspension**" is based on my own work which has been carried out under the supervision of **Prof. Amit Sarda**, Associate Professor, Department of Mechanical Engineering.

I emphasize that the statements made and the conclusions drawn are outcomes of my research work. I further certify that:

i. The work contained in the summary is original and has been done by me under the general supervision of my supervisors.

ii. The work has not been submitted to any other institute for any other degree/M.Tech/certificate in this university of India or abroad.

iii. I have followed the guidelines provided by the university for writing the summary.

iv. I have conformed to the norms and guidelines given in the concerned ordinance of the university.

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vi. Whenever I have quoted written materials from the other sources, I have put them under quotation marks and have given due credit to the sources by citing them and giving required details in the references.

(Signature of the Supervisor)

Dr. R. H. Gajghat

Professor

Department of Mechanical Engineering

Christian College of Engineering and Technology,

Bhilai

(Signature of the Candidate)

Rishabh Tamrakar

Roll No.: 501105821006

Enrolment No.: AM9527

DIPALI SOREN TUDU

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Date: 2023.11.05 10:48:15 +05'30'

CERTIFICATE FROM THE EXAMINERS

The thesis entitled as "**Finite Element Analysis and Topology Optimization of Upper Arm of Double Wishbone Suspension**", submitted by **Rishabh Tamrakar, Roll No: 501105821006** and **Enrollment No: AM9527,** has been examined by the undersigned as a part of the examination and is hereby recommended for the award of the degree of Master of Technology.

Internal Examiner
Date: 06/04/23
Mr. Amit Sinda

External Examiner
Date: Vicky Kumar 06/04/23
06/04/23

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 10:49:02 +05'30'

Enhancing the Performance of Turbine Blades through CAD-Based Design Optimization and Finite Element Analysis

A Summary Report submitted to

Chhattisgarh Swami Vivekananda Technical University

Bhilai (C.G.), India

For the Award of the Degree

of

MASTER OF TECHNOLOGY

in

CAD/CAM-ROBOTICS

by

Bhupesh Sonkar
Enrollment No: AP6693

Under the guidance of

Prof. AMIT SARDA

Associate Professor, Department of Mechanical Engineering

DEPARTMENT OF MECHANICAL ENGINEERING

CHRISTIAN COLLEGE OF ENGINEERING & TECHNOLOGY

Kailash Nagar, Industrial Estate P.O., Bhilai - 490026

Session 2021-23

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 10:49:48 +05'30'

DECLARATION

I, the undersigned solemnly declare that the report of the summary entitled as "**Enhancing the Performance of Turbine Blades through CAD-Based Design Optimization and Finite Element Analysis**" is based on my own work which has been carried out under the supervision of **Prof. Amit Sarda**, Associate Professor, Department of Mechanical Engineering.

I emphasize that the statements made and the conclusions drawn are outcomes of my research work. I further certify that:

i. The work contained in the summary is original and has been done by me under the general supervision of my supervisors.

ii. The work has not been submitted to any other institute for any other degree/M.Tech/certificate in this university of India or abroad.

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iv. I have conformed to the norms and guidelines given in the concerned ordinance of the university.

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vi. Whenever I have quoted written materials from the other sources, I have put them under quotation marks and have given due credit to the sources by citing them and giving required details in the references.

(Signature of the Supervisor)

Prof. Amit Sarda

Associate Professor

Department of Mechanical Engineering

Christian College of Engineering and Technology,

Bhilai

(Signature of the Candidate)

Bhupesh Sonkar

Roll No.: 501105821001

Enrolment No.: AP6693

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 10:50:41 +05'30'

CERTIFICATE FROM THE EXAMINERS

The thesis entitled as "**Enhancing the Performance of Turbine Blades through CAD-Based Design Optimization and Finite Element Analysis**", submitted by **Bhupesh Sonkar, Roll No: 501105821001** and **Enrollment No: AP6693,** has been examined by the undersigned as a part of the examination and is hereby recommended for the award of the degree of Master of Technology.

Internal Examiner
Date: 06/04/23
Mr. Amit Sanda.

External Examiner
Date: 06/04/23
Mr. Vicky Kumar.

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 10:51:39 +05'30'

A Project Report on

Design and Fabrication of Portable Pedal Operated Pneumatic Lifting Jack for LMV

Submitted to

Chhattisgarh Swami Vivekananda Technical University

Bhilai (C.G.), India

In partial fulfillment of the award of degree

BACHELOR OF TECHNOLOGY

In

MECHANICAL ENGINEERING

Submitted by

Shreyansh Lal (301103719009),

Rahul Bramhankar(301103719003),

Sahil Hussain (301103719006)

Under the Guidance of

Dr. Radheshyam H. Gajghat

Professor & HoD, Department of Mechanical Engineering

DEPARTMENT OF MECHANICAL ENGINEERING

CHRISTIAN COLLEGE OF ENGINEERING & TECHNOLOGY

Kailash Nagar, Industrial Estate P.O., Bhilai - 490026

SESSION 2022-23

DECLARATION BY THE CANDIDATES

We, the undersigned solemnly declare that the report of the project entitled as **"Design and Fabrication of Portable Pedal Operated Pneumatic Lifting Jack for LMV"** is based on our own work which has been carried out under the supervision of **Dr. Radheshyam H. Gajghat,** Professor & HoD, Department of Mechanical Engineering.

We assert that the statements made and the conclusions drawn are an outcome of our project work. We further certify that

i. The work contained in the project is original and has been done by us under the general supervision of our supervisor.

ii. The work has not been submitted to any other institute for any other degree/diploma/certificate in this university or any other University of India or abroad.

iii. We have followed the guidelines provided by the University for writing the project.

iv. We have conformed to the norms and guidelines given in the concerned Ordinance of the University.

v. Whenever we have used material (data, theoretical analysis, and text) from other sources, we have given due credit to them by citing them in the text of the project and giving their details in the references.

vi. Whenever we have quoted written materials from the other sources, we have put them under quotation marks and have given due credit to the sources by citing them and giving required details in the references.

Shreyansh Lal	Rahul Bramhankar	Sahil Hussain
(301103719009)	(301103719003)	(301103719006)

CERTIFICATE FROM THE SUPERVISOR

This is to certify that the work incorporated in the project, entitled as **"Design and Fabrication of Portable Pedal Operated Pneumatic Lifting Jack for LMV"** is a record of project work carried out by **Shreyansh Lal (301103719009), Rahul Kumar Bramhankar (301103719003), Sahil Hussian (301103719006),** under my guidance and supervision for the award of the Degree of **Bachelor of Technology** in the faculty of **Mechanical Engineering** of Chhattisgarh Swami Vivekananda Technical University Bhilai, Chhattisgarh, India.

To the best of my knowledge and belief the project -

(i) Embodies the work of the candidates themselves,
(ii) Has duly been completed,
(iii) Fulfills the requirement of the ordinance relating to the B.E degree of the University and
(iv) Is up to the desired standard both in respect of contents and the language for being referred to the examiners.

08/06/2023

Dr. Radheshyam H. Gajghat
Professor & HoD,
Department of Mechanical Engineering
Christian College of Engineering and Technology, Bhilai

Forwarded to Chhattisgarh Swami Vivekananda Technical University, Bhilai

08/06/2023

Dr. Radheshyam H. Gajghat
Professor & Head,
Department of Mechanical Engineering
Christian College of Engineering and Technology, Bhilai

8/06/2023

Dr. Dipali Soren
Principal,
Christian College of Engineering and Technology, Bhilai

Principal
Christian College of Engg.
& Tech. Kailash Nagar
Industrial Estate, PO,
Bhilai-490 026 (C.G.)

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CERTIFICATE FROM THE EXAMINERS

The thesis entitled as **"Design and Fabrication of Portable Pedal Operated Pneumatic Lifting Jack for LMV"**, submitted by **Shreyansh Lal (301103719009), Rahul Barmhankar (301103719003), Sahil Hussian (301103719006)**, has been examined by the undersigned as a part of the examination and is hereby recommended for the award of the degree of **Bachelor of Engineering**.

Internal Examiner

Date: 08/06/23

External Examiner

Date: 08/06/23

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 10:56:21 +05'30'

ACKNOWLEDGEMENT

We found ourselves pleased to have an opportunity to express the help rendered to us by all concerned with successful completion of the work. The success and final outcome of this project required a lot of guidance and assistance from many people and we are extremely fortunate to have all the facilities and support throughout our project work. Whatever we have done is only due to such guidance and assistance and we would not forget to thanks them.

It is immense pleasure to express our deep sense of thanks and gratitude to our mentor and guide **Dr. Radheshyam H. Gajghat**. His dedication and keen interest above all his overwhelming attitude to help his students had been solely and mainly responsible for completing our project work.

We convey our regards and gratitude to **Rev. Fr. Dr. P. S. Varghese,** Executive Vice Chairman, for his moral support and inspirations throughout the endeavour of our project work.

We owe a deep sense of thanks and gratitude to **Dr. Dipali Soren**, Principal, CCET, Bhilai, for her continuous motivation and guidance throughout our work in CCET.

We express our gratitude and regards to our Head of the Department **Dr. Radheshyam H. Gajghat** for his interrupted support and guidance at every stage of our project work. We are also very much grateful to our Project Coordinator **Mr. Amit Sarda** for his prompt inspiration, timely suggestion with kindness and enthusiasm to complete our project work.

Last but not the least we are very much thankful to **all the faculties and staff members of the Department of Mechanical Engineering** who have helped us directly or indirectly to complete our project work as a whole.

Shreyansh Lal (301103719009)

Rahul Barmhankar (301103719003)

Sahil Hussian (301103719006)

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 10:57:14 +05'30'

ABSTRACT

The Pedal Operated Pneumatic Portable Jack for LMV is an innovative and efficient solution designed to streamline the process of lifting vehicles for maintenance, repair, and tire changes. This abstract provides a concise overview of this cutting-edge automotive tool and highlights its key features and benefits. The Pedal Operated Pneumatic Portable Jack harnesses the power of compressed air to effortlessly lift vehicles of varying sizes and weights. It eliminates the need for manual pumping or electric power, offering a convenient and reliable alternative for automobile enthusiasts, mechanics, and roadside assistance professionals. Equipped with a sturdy and durable construction, the car jack's compact design allows for easy portability and storage. The inclusion of a pedal-operated mechanism enables users to swiftly raise or lower the jack with minimal effort, ensuring a smooth and controlled lifting process.

The adjustable height range of this Jack accommodates a wide range of vehicles, from sedans to SUVs, making it a versatile tool for various automotive applications. Its robust lifting capacity ensures stable and secure elevation, providing a safe working environment for mechanics and enthusiasts alike. Key safety features, such as a built-in pressure relief valve and a reliable locking mechanism, further enhance the car jack's reliability and user confidence during operation. Additionally, the inclusion of rubber-coated contact points prevents damage to the vehicle's frame and ensures a secure grip during lifting.

In conclusion, the addition of pedal foot operated pump, Pneumatic Portable Jack offers an efficient, user-friendly, and safe solution for lifting light motor vehicles. Its innovative design, compact size, and ease of use make it an indispensable tool for automotive enthusiasts, professional mechanics, and roadside assistance providers, enhancing productivity and simplifying vehicle maintenance tasks.

A Project Report on

Design and Fabrication of Groundnut Shelling Machine

Submitted to

Chhattisgarh Swami Vivekananda Technical University
Bhilai (C.G.), India
Inpartial fulfilment of the award of degree
BACHELOR OF ENGINEERING
In
MECHANICAL ENGINEERING

Submitted by
Deepak Kumar (301103720300)
Himanshu Tamrakar (301103720301)
Seeyon Kumar (301103720302)

Under the Guidance of
Mr. AMIT SARDA
Associate Professor, Department of Mechanical Engineering

DEPARTMENT OF MECHANICAL ENGINEERING
CHRISTIAN COLLEGE OF ENGINEERING & TECHNOLOGY
Kailash Nagar, Industrial Estate P.O., Bhilai - 490026
SESSION 2022-2023

DECLARATION BY THE CANDIDATES

We, the undersigned solemnly declare that the report of the project entitled as **"Design and Fabrication of Groundnut Shelling Machine"** is based on our own work which has been carried out under the supervision of **Mr. Amit Sarda,** Associate Professor, Department of Mechanical Engineering.

We assert that the statements made and the conclusions drawn are an outcome of our project work. We further certify that

i. The work contained in the project is original and has been done by us under the general supervision of our supervisor.

ii. The work has not been submitted to any other institute for any other degree/diploma/ certificate in this university or any other University of India or abroad.

iii. We have followed the guidelines provided by the University for writing the project.

iv. We have conformed to the norms and guidelines given in the concerned Ordinance of the University.

v. Whenever we have used material (data, theoretical analysis, and text) from other sources, we have given due credit to them by citing them in the text of the project and giving their details in the references.

vi. Whenever we have quoted written materials from the other sources, we have put them under quotation marks and have given due credit to the sources by citing them and giving required details in the references.

Deepak Kumar	Himanshu Tamrakar	Seeyon Kumar
(301103720300)	(301103720301)	(301103720302)

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 10:59:49 +05'30'

CERTIFICATE FROM THE SUPERVISOR

This is to certify that the work incorporated in the project, entitled as **"Design and Fabrication of Groundnut Shelling Machine"** is a record of project work carried out by **Deepak Kumar (301103720300), Himanshu Tamrakar (301103720301), Seeyon Kumar (301103720302)** under my guidance and supervision for the award of the Degree of **Bachelor of Engineering** in the faculty of **Mechanical Engineering** of Chhattisgarh Swami Vivekananda Technical University Bhilai, Chhattisgarh, India.

To the best of my knowledge and belief the project

(i) Embodies the work of the candidates themselves,

(ii) Has duly been completed,

(iii) Fulfills the requirement of the ordinance relating to the B.E degree of the University and

(iv) Is up to the desired standard both in respect of contents and the language for being referred to the examiners.

Mr. Amit Sarda
Associate Professor
Department of Mechanical Engineering
Christian College of Engineering and Technology, Bhilai

Forwarded to Chhattisgarh Swami Vivekananda Technical University, Bhilai

08/06/2023

Dr. Radheshyam H. Gajghat
Professor & Head
Department of Mechanical Engineering
Christian College of Engineering and Technology, Bhilai

8/06/2023

Dr. Dipali Soren
Principal
Christian College of Engineering and Technology, Bhilai

Principal
Christian College of Engg. & Technology
Kailash Nagar
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Bhilai-490 026 (C.G.)

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 11:00:45 +05'30'

CERTIFICATE FROM THE EXAMINERS

The thesis entitled as **"Design and Fabrication of Groundnut Shelling Machine"**, submitted by **Deepak Kumar (301103720300), Himanshu Tamrakar (301103720301), Seeyon Kumar** (301103720302) has been examined by the undersigned as a part of the examination and is here by recommended for the award of the degree of **Bachelor of** Engineering.

Internal Examiner
Date: 09/06/23

External Examiner
Date: 09/06/23

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 11:01:42 +05'30'

ACKNOWLEDGEMENT

We found ourselves pleased to have an opportunity to express the help rendered to us by all concerned with successful completion of the work. The success and final outcome of this project required a lot of guidance and assistance from many people and we are extremely fortunate to have all the facilities and support throughout our project work. Whatever we have done is only due to such guidance and assistance and we would not forget to thanks them.

It is immense pleasure to express our deep sense of thanks and gratitude to our mentor and guide **Mr. Amit Sarda**. His dedication and keen interest above all his overwhelming attitude to help his students had been solely and mainly responsible for completing our project work.

We convey our regards and gratitude to **Rev. Dr. Fr. P. S. Varghese,** Executive Vice Chairman, for his moral support and inspirations throughout the endeavour of our project work.

We owe a deep sense of thanks and gratitude to **Dr. Dipali Soren**, Principal, CCET, Bhilai, for her continuous motivation and guidance throughout our work in CCET.

We express our gratitude and regards to our Head of the Department **Dr. Radheshyam H. Gajghat** for his interrupted support and guidance at every stage of our project work. We are also very much grateful to our Project Coordinator **Mr. Amit Sarda** for his prompt inspiration, timely suggestion with kindness and enthusiasm to complete our project work.

Last but not the least we are very much thankful to **all the faculties and staff members of the Department of Mechanical Engineering** who have helped us directly or indirectly to complete our project work as a whole.

Deepak Kumar
(301103720300)

Himanshu Tamrakar
(301103720301)

Seeyon Kumar
(301103720302)

ABSTRACT

Groundnut is the sixth most important oilseed crop in the world and it is belonging to beans family. Shelling is a fundamental step in groundnut processing and it can be done by hand or machines. Hand shelling process is labour intensive, slow and tiresome. Numbers of groundnut Sheller machines are available in the market but they are large in size, costly and not suitable for domestic applications, they are best suitable for industrial applications where mass production is required. Hence it is essential to design and fabricate a portable groundnut Sheller machine for domestic application.

In India, most of land use for agricultural purpose which produces semi-finished product or goods. Groundnut also one of the agricultural semi-finished goods. Groundnut is grown on small scale farmers in developing countries like India. The average kernel price is approximately twice the price of pod. Lack of groundnut processing machines, especially groundnut Sheller, is a major problem of groundnut production, especially in our country India. In the beginning the peanuts were separated from its shells by the workers. They simply decoct the groundnut by their hands and separate the peanuts from its shell. The output got from this method, was very low and it does not fulfill the market demand because it was very time-consuming process. A research-work for design, fabricate, and performance evaluation of a groundnut Sheller consisting of feed hopper with a flow rate control device, shelling unit, separating unit and power system. The performance of the machine was evaluated in terms of throughput capacity, shelling efficiency, material efficiency and mechanical damage. Regression models that could be used to express the relationship existing between the Sheller performance indices, pod moisture content and feed rate were establish. This paper describes about the design and fabrication of various components of groundnut Sheller machine. Hence in this design of various parts are necessary, and design of various parts due to which the design quality of those parts will be improved. Overall, this project involves processes like design, fabrication and assembling of different components etc.

Keywords: Groundnut, pods, shelling machine, design methodology, efficiency, fabrication

A Project Report on

Design of Multifunctional Ladder Chair

Submitted to

Chhattisgarh Swami Vivekananda Technical University

Bhilai (C.G.), India

In partial fulfilment of the award of degree

BACHELOR OF TECHNOLOGY

in

MECHANICAL ENGINEERING

Submitted by

Shivnath Gota (301103719008)

Robins Jacob John (301103719004)

Under the Guidance of

Asst. Prof. Chandra Shekhar Sahu

Professor, Department of Mechanical Engineering

DEPARTMENT OF MECHANICAL ENGINEERING

CHRISTIAN COLLEGE OF ENGINEERING & TECHNOLOGY

Kailash Nagar, Industrial Estate P.O., Bhilai – 490026

SESSION 2022-2023

DECLARATION BY THE CANDIDATES

We, the undersigned solemnly declare that the report of the project entitled as **"Design of Multifunctional Ladder Chair"** is based on our own work which has been carried out under the supervision of **Mr. Chandra Shekhar Sahu,** Associate Professor, Department of Mechanical Engineering.

We assert that the statements made and the conclusions drawn are an outcome of our project work. We further certify that

i. The work contained in the project is original and has been done by us under the general supervision of our supervisor.

ii. The work has not been submitted to any other institute for any other degree/diploma/ certificate in this university or any other University of India or abroad.

iii. We have followed the guidelines provided by the University for writing the project.

iv. We have conformed to the norms and guidelines given in the concerned Ordinance of the University.

v. Whenever we have used material (data, theoretical analysis, and text) from other sources, we have given due credit to them by citing them in the text of the project and giving their details in the references.

vi. Whenever we have quoted written materials from the other sources, we have put them under quotation marks and have given due credit to the sources by citing them and giving required details in the references.

Shivnath Gota (301103716025)

Robins Jacob John (301103719004)

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 11:05:58 +05'30'

CERTIFICATE FROM THE SUPERVISOR

This is to certify that the work incorporated in the project, entitled as **"Multifunctional Ladder Chair"** is a record of project work carried out by **Shivnath Gota (301103719008), Robins Jacob John (301103719004),** under my guidance and supervision for the award of the Degree of **Bachelor of Technology** in the faculty of **Mechanical Engineering** of Chhattisgarh Swami Vivekananda Technical University Bhilai, Chhattisgarh, India.

To the best of my knowledge and belief the project

(i) Embodies the work of the candidates themselves,
(ii) Has duly been completed,
(iii) Fulfills the requirement of the ordinance relating to the B.Tech degree of the University and
(iv) Is up to the desired standard both in respect of contents and the language for being referred to the examiners.
(v)

07.06.23

Mr. Chandra Shekhar Sahu
Professor

Department of Mechanical Engineering
Christian College of Engineering and Technology, Bhilai

Forwarded to Chhattisgarh Swami Vivekananda Technical University, Bhilai

08/06/2023

Dr. Radheshyam H. Gajghat

Professor & Head

Department of Mechanical Engineering

Christian College of Engineering and Technology, Bhilai

Dr. Dipali Soren

Principal

Christian College of Engineering and Technology, Bhilai

Principal
Christian College of Engg.
& Tech. Kailash Nagar
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Bhilai-490 026 (C.G.)

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 11:06:52 +05'30'

CERTIFICATE FROM THE EXAMINERS

The thesis entitled as **"Design and Development of Multifunctional ladder Chair"**, submitted by **Shivnath Gota (301103719008), Robins Jacob John (301103719004)**, has been examined by the undersigned as a part of the examination and is hereby recommended for the award of the degree of **Bachelor of Technology**.

Internal Examiner
Date: 09/06/23

External Examiner
Date: 09/06/23

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Date: 2023.11.05 11:08:09 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

ACKNOWLEDGEMENT

We found ourselves pleased to have an opportunity to express the help rendered to us by all concerned with successful completion of the work. The success and final outcome of this project required a lot of guidance and assistance from many people and we are extremely fortunate to have all the facilities and support throughout our project work. Whatever we have done is only due to such guidance and assistance and we would not forget to thanks them.

It is immense pleasure to express our deep sense of thanks and gratitude to our mentor and guide of **Mr. Chandra Shekhar Sahu** His dedication and keen interest above all his overwhelming attitude to help his students had been solely and mainly responsible for completing our project work.

We convey our regards and gratitude to **Rev.Fr.Dr. P.S. Varughese,** Executive Vice Chairman, **for** his moral support and inspirations throughout the endeavour of our project work.

We owe a deep sense of thanks and gratitude to **Dr. Dipali Soren**, Principal, CCET, Bhilai, for her continuous motivation and guidance throughout our work in CCET.

We express our gratitude and regards to our Head of the Department **Dr. Radheshyam H. Gajghat** for his interrupted support and guidance at every stage of our project work. We are also very much grateful to our Project Coordinator **Mr. Chandra Shekhar Sahu** for his prompt inspiration, timely suggestion with kindness and enthusiasm to complete our project work.

Last but not the least we are very much thankful to **all the faculties and staff members of the Department of Mechanical Engineering** who have helped us directly or indirectly to complete our project work as a whole.

Shivnath Gota (301103719008)

Robins Jacob John (301103719004)

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ABSTRACT

The invention relates to furniture, and especially relates to a multifunctional ladder chair. A technical problem to be solved is providing a multifunctional ladder chair having functions ofa ladder, a chair and a deck chair.

The multifunctional ladder chair has the advantages of convenient transition among various functions, safety, reliability, economy, utility, beauty, comfortableness, and convenient dismounting and transportation.

The chair legs and the backrest columns of the multifunctional ladder chair adopt multilayer tubes. When the multifunctional ladder chair is used as a chair, inner tubes shrink in; and when the multifunctional ladder chair is used as a ladder, the inner tubes stretch, a chair surface is lifted to a proper height, and the backrest columns are lifted to become reliable armrests, so the problems of tumble and fear of height are solved. The multifunctional ladder chair is beautiful, comfortable and utile as a chair, has no influences in any corner of a room, and solves a problem of the storage of the furniture at normal time.

The backrest angle can be adjusted, so the multifunctional ladder chair can also be used as a deck chair, a clothes horse or a flower stand. The multifunctional ladder chair having multiple functions saves the household expenditure, occupies small land, saves the raw materials of the society, and accords with low carbon and economy principles.

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Criterion 1

QnM 1.3.2 Project work/field work/ Internships

A Project Report on

"DESIGN & FABRICATION OF BELT-TYPE OIL SKIMMER"

Submitted to

Chhattisgarh Swami Vivekananda Technical University
Bhilai (C.G.), India

In partial fulfilment for the award of degree
BACHELOR OF ENGINEERING
in
MECHANICAL ENGINEERING

Submitted by

Roshan Roy (301103719005)

Sharon Suryavanshi (301103719007)

Akhil Anu Abraham (301103719010)

Under the Guidance of

Dr. Srinivasa Rao Pulivarti

Professor, Department of Mechanical Engineering

DEPARTMENT OF MECHANICAL ENGINEERING
CHRISTIAN COLLEGE OF ENGINEERING & TECHNOLOGY
Kailash Nagar, Industrial Estate P.O.,
Bhilai - 490026

SESSION 2022-2023

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DECLARATION BY CANDIDATES

We, the undersigned solemnly declare that the report of the thesis work entitled **"Design & Fabrication of Belt-Type Oil Skimmer"**is based on our own work carried out during the course of our study under the supervision of **Dr. Srinivasa Rao Pulivarti.**

We assert that the statements made and conclusions drawn are an outcome of our research work. We further declare that to the best of our knowledge and belief the report does not contain any part of any work which has been submitted for the award of M.Tech degree or any other degree/diploma/certificate in this University or any other University of India or abroad.

Sharon Suryavanshi
Roll No.: 301103719007
Enrollment No.: BI1513

Roshan Roy
Roll No.:301103719005
Enrollment No.: BI1511

Akhil Anu Abraham
Roll No.: 301103719010
Enrollment No.: BI1502

CERTIFICATE BY THE SUPERVISOR/S

This is to certify that the work incorporated in the thesis **"Design & Fabrication of Belt-Type Oil Skimmer"** is a record of research work carried out by Roshan Roy bearing Roll No.: 301103719005, Sharon Suryavanshi bearing Roll No.: 301103719007, Akhil Anu Abraham bearing Roll No.: 301103719010 under my guidance and supervision for the award of Bachelor of Technology in Mechanical Engineering of Chhattisgarh Swami Vivekanand Technical University, Bhilai (C.G.), India.

To the best of my knowledge and belief the thesis

i) Embodies the work of the candidate him/herself

ii) Has duly been completed

iii) Fulfils the requirement of the Ordinance relating to the B.Tech degree of the University and

iv) Is up to the desired standard both in respect of contents and language for being referred to the examiners.

(Signature of the Supervisor)
Dr. Srinivasa Rao Pulivarti
Professor, Department of Mechanical Engineering

Forwarded to Chhattisgarh Swami Vivekanand Technical University
Bhilai

Principal
Christian College of Engg. & Tech, Kailash Nagar
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(Signature of the Head of the Approved Place of Research)(Seal of the Approved Place of Research)

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Date: 2023.11.05 11:13:14 +05'30'

CERTIFICATE BY THE EXAMINERS

The Thesis entitled **"Design & Fabrication of Belt-Type Oil Skimmer"** Submitted by Roshan Roy (Roll No.: 301103719005), Sharon Suryavanshi (Roll No.: 301103719007), Akhil Anu Abraham (Roll No.: 301103719010) has been examined by the undersigned as a part of the examination and is hereby recommended for the award of B.Tech Degree in Mechanical Engineering of Chhattisgarh Swami Vivekanand Technical University, Bhilai.

Internal Examiner
Date: 08/06/23

External Examiner
Date: 08/06/23

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ACKNOWLEDGEMENT

The success of any project depends largely on the encouragement and guidance of many others. We take this opportunity to express my gratitude towards our guide Dr. Srinivasa Rao Pulivarti, Professor, Department of Mechanical Engineering without whom this project would nnot have been possible. It has been a pleasure to have worked under his supervision. We would like to show our appreciation to Principal Dr. Dipali Soren. Without their encouragement and guidance this project would not have materialized.

Last but not the least, We would like to thank Sajjoo Sir for this help and guidance during the fabrication process and we also thank all other staffs for their everlasting support.

Sharon Suryavanshi
Roll No.: 301103719007
Enrollment No.: BI1513

Roshan Roy
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Enrollment No.: BI1511

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ABSTRACT

To separate the mixed oil from the water, industries wide various type of oil skimmers is getting used. Herewith, the objective of this project is to design and conduct efficiency studies of belt type oil skimmer by using various materialed belts. The belts absorb the oil from water which can be scooped out and collect into a vessel by providing piping arrangements.

Pollution has created lot of problem to the environment. By removing the oil from the water, it becomes free of oil pollutions oil skimmer are commonly found in two type's oleophilic and non-oleophilic. The oleophilic skimmer are distinguished as not by their operations but while the component used to collect oil are belt, rope or drum. It can remove even a thin floating film of oil from water. This is mainly due to elastomer synthetic fiber material of belt. In belt type oil skimmer, the belt absorbs the oil from water which can be scooped out and collect into a storage tank. Hence this stored oil can be reused for many purposes. It was found from the research that oil removal rate based on the properties and quantity of oil present in the water.

This project provides method for increasing efficiency of oil skimmer by using marine ply disc and scrapper to prevent marine pollution by oil spill. It also provides information and methods on how it can be used in various industries to separatethe oil water mixture. Improvements in design and equipment's through which efficiency can be increased have also been provided through this technical paper. The results and conclusions acquired by using Belt-Type Oil skimmer have been provided through this technical Project.

Key Words:- Oil spillage, offshore Drilling& production, Aquatic life, Oil skimmer.

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ELECTRIC VEHICLE BATTERY PROTECTION SYSTEM

A

Project Report Submitted to

Chhattisgarh Swami Vivekanand Technical University Bhilai (India)

In Partial Fulfillment for award of the degree of

BACHELOR OF TECHNOLOGY

By

Rovins Xess
Leo Koshy Varghese
Sugam Bakshi
Vedina Xaxa

Under the guidance of

Mr. Prashant Bawaney

Department of Electrical Engineering
Christian College of Engineering and Technology

Session(2019-2023)

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DECLARATION BY THE CANDIDATE

We, the undersigned solemnly declare that the report of the project entitled as **Electric Vehicle Battery Protection System** is based on our own work which has been carried out under the supervision of **Mr. Prashant Bawaney,** Associate Professor, Department of Electrical Engineering.

We assert that the statements made and the conclusions drawn are an outcome of our project work. We further certify that

i. The work contained in the project is original and has been done by us under the general supervision of our supervisor.
ii. The work has not been submitted to any other institute for any other degree/diploma/ certificate in this university or any other University of India or abroad.
iii. We have followed the guidelines provided by the University for writing the project.
iv. We have conformed to the norms and guidelines given in the concerned Ordinance of the University.
v. Whenever we have used material (data, theoretical analysis, and text) from other sources, we have given due credit to them by citing them in the text of the project and giving their details in the references.
vi. Whenever we have quoted written materials from the other sources, we have put them under quotation marks and have given due credit to the sources by citing them and giving required details in the references.

Rovins Xess (BI1505) Rovins

Sugam Bakshi (AO5077) Sugam

Leo Koshy Varghese (BI1503)

Vedina Xaxa(BI1506) Vedina

II

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CERTIFICATE FROM THE SUPERVISOR

This is to certify that the work incorporated in the project report entitled **Electric Vehicle Battery Protection System** is a record of work carried out by **Rovins Xess** bearing enrollment No. **BI1505**, **Sugam Bakshi** bearing enrollment No. **AO5077**, **Leo Koshy Varghese** enrollment No. **BI1503**,**Vedina Xaxa** bearing enrollment No. **BI 1505**, under my/our guidance and supervision for the award of Degree of Bachelor of Technology in the faculty of Department of **Electrical Engineering** of **Chhattisgarh Swami Vivekanand Technical University, Bhilai, Chhattisgarh, India.**

To the best of my/our Knowledge and belief the project report

i) Embodies the work of the candidate themselves,
ii) Has duly been completed,
iii) Fulfils the requirement B.Tech degree of the University and
iv) Is upto the desired standard both in respect of contents and language for being referred to the examinars.

(Signature of the Supervisor)

Forwarded to Chhattisgarh Swami Vivekanand Technical University, Bhilai

(Signature of the Head of the Department)

Head of Department,
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Kailash Nagar, Industrial Estate.

(Seal of the Department in Electrical Engineering)

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CERTIFICATE BY THE EXAMINERS

This is to certify that the project report entitled **"Electric Vehicle Battery Protection System"** which is submitted by

1. **Rovins Xess**, Roll No. - **301102419004**, Enrollment No. - **BI1505**
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3. **Leo Koshy Varghese** , Roll No. - **301102419002**, Enrollment No. - **BI1503**
4. **Vedina Xaxa**, Roll No. - **301102419005**, Enrollment No.- **BI1506**

Has been examined by the undersigned as a part of the examination for the award of the degree of Bachelor of Technology in Electrical Engineering from Chhattisgarh Swami Vivekanand Technical University, Bhilai.

(Signature of External Examiner)

Dr. Rajkumar Thapak
(Name of the External Examiner)

Date: 12/06/23.

Designation: Asso. Prof.

Institute: SSTC, Bhilai

(Signature of Internal Examiner)

Dr. Shailendra Verma
(Name of the Internal Examinar)

Date: 12/06/23

Designation: Assistant Professor

Institute: CCET Bhilai

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Criterion 1

QnM 1.3.2 Project work/field work/ Internships

ACKNOWLEDGEMENT

It is our pleasure to be indebted to various people, who directly or indirectly contributed in the development of this project work and influenced our thinking, behavior, and knowledge during the course of this work.

We would like to express our deep sense of gratitude to our Professor, **Mr. Prashant Bawaney,** Asst. Prof. Electrical Engineering Department for his valuable guidance and motivation throughout our study.

We would like to express our sincere and profound gratitude to **Prof. Dr. Shailendra Verma,** Professor and Head of Electrical Engineering Department for supporting and providing the facilities for our project work.

We would like to thank our principal mam **Dr. Mrs. Deepali Soren,** for giving the opportunity so that we have made our project and supporting us by giving her guidance and motivation.

I would also like to thank entire **CCET** and all faculty members of electrical department and other departments for supporting in us in making our project.

Lastly, we would like to thank the almighty God and our parents for their moral support and blessings, to them we bow in the deepest reverence and our friends with whom we shared our day – to – day experience and received lots of suggestions that improved our quality of work.

Rovins Xess(BI1505) Rovins

Sugam Bakshi(AO5077)

Leo Koshy Varghese(BI1503)

Vedina Xaxa(BI1506) Vedina

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ABSTRACT

Today the world is developing very fast and many energy resources are decreasing day – by – day. Almost everywhere the vehicles run with the help of fossil fuels like – Petrol, Diesel , Coal(Steam Engine) etc. These fossil fuel causes pollution which is harmful for the environment and leaving beings. The Fossil fuels are eliminating day – by – day and cannot be retained for future. Since, the world is a growing every day it is necessary to store energy for future. To overcome this, one of the method is to manufacture Electric Vehicle (EV) which runs with DC Current and generating DC current is easy and can be reused and it does not affect the environment.

The Electric Vehicles generally use Lithium – ion, lead – acid batteries, nickel – metal hydride batteries

In this paper we will discuss mainly about Lithium – ion battery and also discuss the process by which it can be prevented from expansion, temperature rise, over charging and discharging. To overcome the expansion the batteries temperature should be maintained and this is done only when some device/sensor is connected , which senses and controls it from expansion.

The consumers are not aware about these problems and they are busy in many works that they don't pay attention on the effects of EV batteries. To overcome this it is necessary to manage the batteries , so that the vehicle must be safe.

DIPALI SOREN TUDU

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IOT BASED HOME AUTOMATIONSYSTEM

Project Report Submitted To

Chhattisgarh Swami Vivekanand Technical University Bhilai

In Partial Fulfillment for award of the degree of

BACHELOR OF TECHNOLOGY

BY

Krishnakant Sahu
Mithlesh
Raj kumar
Pawan kumar vishwakarma

UNDER THE GUIDANCE
OF
Mr. Ashish Dewangan

Department of Electrical Engineering
Christian college of Engineering and Technology
Session (2022-23)

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DECLARATION BY THE CANDIDATE

We, the undersigned solemnly declare that the report of the project entitled as **"IOT BASED HOME AUTOMATION SYSTEM"**is based on our own work which has been carried out under the supervision of **Mr. Ashish Dewangan,** Associate Professor, Department of Electrical Engineering.

We assert that the statements made and the conclusions drawn are an outcome of our project work. We further certify that

i. The work contained in the project is original and has been done by us under the general supervision of our supervisor.
ii. The work has not been submitted to any other institute for any other degree/diploma/ certificate in this university or any other University of India or abroad.
iii. We have followed the guidelines provided by the University for writing the project.
iv. We have conformed to the norms and guidelines given in the concerned Ordinance of the University.
v. Whenever we have used material (data, theoretical analysis, and text) from other sources, we have given due credit to them by citing them in the text of the project and giving their details in the references.
vi. Whenever we have quoted written materials from the other sources, we have put them under quotation marks and have given due credit to the sources by citing them and giving required details in the references.

Krishnakant Sahu (BJ0422) Krishnakant

Mithlesh (BF5533)

Raj Kumar (BJ0423)

Pawan kumar vishwakarma (BI1504)

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CERTIFICATE FROM THE SUPERVISOR

This is to certify that the work incorporated in the project report entitled < **IOT BASED HOME AUTOMATION SYSTEM>** is a record of work carried out by <Krishnakant Sahu> bearing enrollment No. BJ0422, <Mithlesh> bearing enrollment No. BF5533, <Raj kumar>BJ0423,<Pawan kumar vishwakarma>bearing enrollment No. BI1504 under my/our guidance and supervision for the award of Degree of Bachelor of Technology in the faculty of Department of Electrical Engineering of Chhattisgarh Swami Vivekanand Technical University, Bhilai, Chhattisgarh, India.

To the best of my/our Knowledge and belief the project report

i) Embodies the work of the candidate themselves,
ii) Has duly been completed,
iii) Fulfils the requirement B.Tech degree of the University and
iv) Is upto the desired standard both in respect of contents and language for being referred tothe examinars.

(Signature of the Supervisor)
Ashish Dewangan
(Name of the Supervisor)

(Signature of the Supervisor)
Prashant Banwaney
(Name of the Supervisor)

Forwarded to Chhattisgarh Swami Vivekanand Technical University, Bhilai

(Signature of the Head of the Department)

(Seal of the Department in Electrical Engineering)

Head of Department,
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CERTIFICATE BY THE EXAMINERS

This is to certify that the project report entitled **"IOT BASED HOME AUTOMATION SYSTEM"** which is submitted by

1. Krishnakant sahu, Roll No. - 301102420306, Enrollment No. – BJ0422
2. Mithlesh, Roll No. - 301102420307, Enrollment No.- BF5533
3. Raj kumar , Roll No. - 301102420308, Enrollment No. – BJ0423
4. Pawan kumar vishwakarma, Roll No. - 301102419003, Enrollment No.- BI1504

Has been examined by the undersigned as a part of the examination for the award of the degreeof Bachelor of Technology in Electrical Engineering from Chhattisgarh Swami Vivekanand Technical University, Bhilai.

(Signature of External Examiner)

Dr. Rajkumar Thapha
(Name of the External Examiner)

Date: 12/06/23

Designation: Asso Prof.

Institute: SSTC, Bhilai

(Signature of Internal Examiner)

Dr. Shailendra Verma
(Name of the Internal Examinar)

Date: 12/06/23

Designation: Asstd. Professor

Institute: CCET

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ACKNOWLEDGEMENT

We express our sincere gratitude to **Dr. Shailendra Verma,** Department of Electrical Engineering, **Christian College of Engineering and Technology Bhilai(C.G.),** as the mentor for our project. It is our great fortune that we have got opportunity to carry out this project work under the supervision. We express our sincere thanks for the encouragement, support and the guidance. We wouldfurther like to thank all the faculty member for their cooperation and extendedsupport in undergoing the project work. We also would thank the department of Electrical Engineering to provide the infrastructure and facility in carrying the projects like these.

Krishnakant Sahu (301102420306) (BJ0422)
Mithlesh (301102420307) (BF5533)
Raj kumar (301102420308) (BJ0423)
Pawan kumar vishwakarma (301102419003) (BI1504)

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ABSTRACT

This project presents the overall design of Home Automation System (HAS) with low cost and wireless system. It specifically focuses on the development of an IOT based home automation system that is able to control various components via internet or be automatically programmed to operate from ambient conditions. In this project, we design the development of a firmware for smart control which can successfully be automated minimizing human interaction to preserve the integrity within whole electrical devices in the home. We used Node MCU, a popular open source IOT platform, to execute the process of automation. Different components of the system will use different transmission mode that will be implemented to communicate the control of the devices by the user through Node MCU to the actual appliance. 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 1fulfil the needs of elderly and disabled in home. Also, the smart home concept in the system improves the standard living at home.

A

PROJECT (Phase- II) REPORT ON

"PLOTTING THE SPEED –TORQUE CHARACTERISTICS OF 3 PHASE INDUCTION MOTOR USING MATLAB SIMULINK "

Submitted to

CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY BHILAI (C.G.), INDIA

In partial fulfillment of requirement for the award of the

Degreeof

Bachelor of Technology

In

Electrical Engineering

Submitted by

Shivendra Panigrahi
Deepak Chaudhary
Kamlesh Damahe
Dujendra Kumar Sahu

Under the Guidance of

Ms. Richa Sahu

(Assistant Professor)

Department of Electrical Engineering

Christian College of Engineering and Technology Bhilai

(session 2022-23)

DECLARATION

We the undersigned solemnly declare that the report of the project work entitled "**Plotting the speed torque characteristics of 3 phase induction motor using MATLAB Simulink** " is based on our own work carried out during the course of our study under the supervision of Ms. Richa Sahu .

We assert that the statements made and the conclusions drawn are an outcome of the project work. We further declare to the best of our knowledge and belief, that the report does not contain any part of any work which has been submitted for the award of any other degree/diploma/certificate at this university or any other university.

Deepak

Signature of candidate

Deepak Chaudhary (BD0339)

301102420302

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Date: 2023.11.05 11:31:54 +05'30'

CERTIFICATE

This is to certify that the report of the project submitted is an outcome of the project work entitled **" Plotting the speed torque characteristics of 3 phase induction motor using Matlab Simulink"** carried out by

Deepak Chaudhary **BD0339** **301102420302**

carried out under my guidance and supervision for the award and Degree in Bachelor of Technology in Electrical Engineering Branch of Chhattisgarh Swami Vivekanand Technical University, Bhilai (C.G.), India

To the best of my knowledge, the report

i) Embodies the work of the candidate himself,
ii) Has duly been completed,
iii) Fulfils the requirements of the Ordinance relating to the B. Tech. degree of the University
iv) It is up to the desired standard for the purpose of which is submitted.

(Signature of the Guide)
Ms. Richa Sahu
(Assistant Professor)
Department of Electrical Engineering
Christian College of Engineering and Technology
Bhilai

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CERTIFICATE BY THE EXAMINERS

This is to certify that the project report entitled " **Plotting the speed torque characteristics of 3 phase induction motor using matlab Simulink".**

Deepak Chaudhary **BD0339** **301102420302**

It has been examined by the undersigned as a part of the examination for the award of a Bachelor of Technology degree in Electrical Engineering of **Christian College of Engineering and Technology Bhilai.**

Internal Examiner

Date: 12/06/23

External Examiner

Date: 12/06/23.

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APPROVAL OF THE PROJECT

The project work entitled **"Plotting the speed torque characteristics of a 3 phase inductionmotor using matlab Simulink "** was carried out by

Deepak Chaudhary	**BD0339**	**301102420302**

under the supervision of **Ms. Richa Sahu** for the partial fulfilment of the requirement for thedegree of **Bachelor of Technology** is hereby approved and being recommended.

Mr. Shailendra Verma
Head of Electrical
Department [H.O.D.]

Dr. Dipali Soren
PRINCIPAL

Christian College of Engineering and Technology
Bhilai (C.G) INDIA

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ACKNOWLEDGEMENT

The authors wish to acknowledge their profound sense of gratitude to **Dr. Shailendra Verma** (H.O.D. of Electrical Engineering department) of **Christian College of Engineering and Technology Bhilai (C.G.)** for his remarkable guidance and continued encouragement during the preparation of this project. Indeed, it was a matter of great felicity and privilege for the authors to work under their aegis.

We are also thankful to **Dr. Dipali Soren, Principal** of **Christian College of Engineering and Technology Bhilai (C.G.)** for his kind permission to carry out this project and we also, thankfulto faculty members of the Electrical Department.

Deepak

Deepak Chaudhary **BD0339** **301102420302**

DIPALI SOREN TUDU

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ABSTRACT

In this investigation, a mathematical model has been developed for the dynamic behavior of a three-phase induction motor. The steady and temporary state of the motor has been analyzed forboth collected and unhinged voltage supply.

The behavior of the Torque-Speed characteristics at numerous conditions has been studied. Matlab/Simulink representations are proposed to study the go-ahead deportment of the motor using d-q axis theory in the situation casing. These graphics investigate the behavior of the induction motor parameters. In calculation, they enable the secondary to work out or look into any capricious for an induction device constraint.

As a sample, the budding variance, current, fluidity, speed and torque as a denotation of time in transitory and solid state. Microsoft Excel has been used by consuming the percentage between the methods of the electromagnetic torque equation (Tem) and the maximum torque equation (Tmax). The routine of the Torque-Speed characteristics for a 3-phase induction motor has been calculated and investigated.

Manipulating these copies of the energy of the various boundaries on the dynamic deportment of the motor has been considered. These models could be utilized for a wide array of motors which has countless horse power, that is essential in organized inquiry and everyday concepts .

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 11:38:02 +05'30'

SUNLIGHT TRACKING SOLAR PANEL USING ARDUINO

Project Report Submitted to

Chhattisgarh Swami Vivekanand Technical University

Bhilai (C.G., INDIA)

In partial fulfillment of requirement for award of degree of

BACHELOR OF ENGINEERING

In

ELECTRICAL ENGINEERING

By

Jayant Kumar

Under the Guidance of

Mr. Akash Dewangan

Department of Electrical Engineering

Christian college of engineering and technology, Bhilai (CG)

Session 2022-23

DIPALI SOREN TUDU
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Date: 2023.11.05 11:39:10 +05'30'

CERTIFICATE BY THE EXAMINERS

This is to certify that the project report entitled **"SUNLIGHT TRACKING SOLAR PANEL USING ARDUINO"** which is submitted by Jayant Kumar, Roll No.: 301102420304, Enrollment No.:BB7773 has been examined by the undersigned as a part of the examination for the award of the degree of Bachelor of Engineering in Electrical Engineering from Chhattisgarh Swami Vivekanand Technical University, Bhilai.

(Signature of the External Examiner)

Dr. Rajkumar Thapak
(Name of the External Examiner)

Date: 12/06/23

Designation: Asso. Prof.

Institute: SSTC, Bhilai

(Signature of the Internal Examiner)

Dr. Shailendra Verma
(Name of the Internal Examiner)

Date: 12/06/23

Designation: Asst. Professor

Institute: CCET Bhilai

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 11:40:18 +05'30'

CERTIFICATE FROM THE SUPERVISOR/S

This is to certify that the work incorporated in the project report entitled **"SUNLIGHT TRACKING SOLAR PANEL USING ARDUINO"** is a record of work carried out by **Jayant Kumar** bearing Enrolment No.: **BB7773**. Under my/our guidance and supervision for the award of Degree of Bachelor of Engineering in the faculty of Department of Electrical Engineering of Chhattisgarh Swami Vivekanand Technical University, Bhilai, Chhattisgarh, India.

To the best of my/our knowledge and belief the project report

I. Embodies the work of the candidates themselves,
II. Has duly been completed,
III. Fulfils the requirement BE degree of the University and
IV. Is up to the desired standard both in respect of contents and language for being referred to the examiners.

Guided By
Mr. Akash Dewangan
(Electrical Engineering)

Forwarded to Chhattisgarh Swami Vivekanand Technical University, Bhilai

(Signature of the Head of the Department)
Dr. Rajendra Verma
Head of Department
Department of Electrical Engineering
Christian College of Engg & Tech.
Kohka Nagar, Industrial Estate,
(Seal of the Department Electrical Engineering)

DECLARATION BY THE STUDENTS

We the undersigned solemnly declare that the project report titled **"SUNLIGHT TRACKING SOLAR PANEL USING ARDUINO"** is based on our own work carried out during the course of our study under the supervision of **Mr. Akash dewangan.**

We assert that the statements made and conclusions drawn are an outcome of our work. We further certify that

i. The work contained in the report is original and has been done by us under the general supervision of our supervisor(s).
ii. The work has not been submitted to any other Institute for any other degree/diploma/certificate in this
iii. University or any other University of India or abroad.
iv. We have followed the guidelines provided by the University in writing the report.
v. Whenever we have used materials (data, theoretical analysis, and text) from other sources, we have given due credit to them by citing them in the text of the report and giving their details in the references.

(Signature of the Student)

Jayant

Name of the Student: Jayant Kumar

Enrolment No.: BB7773

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 11:42:45 +05'30'

ACKNOLEDGEMENT

We would like to express our gratitude to all those who gave us the responsibility to complete this project report. We want to thank our institute Faculty of Engineering and technology, **Christian college of engineering and technology, Bhilai (CG)** for giving us permission to commence this project report.

We would also like to express our deep gratitude to **Mr. Akash Dewangan** for his ever helping and support, We also pay special thanks for his helpful solution of comments enriched by his experience, which improved our ideas for betterment of the project.

We highly thankful to Prof. **Shailendra Verma**, H.O.D. of Electrical engineering department , for providing us necessary facilities and co-operation during the course of study.

Jayant Kumar (301102420304)

ABSTRACT

Solar energy is a clean, easily accessible and abundantly available alternative energy source in nature. Getting solar energy from nature is very beneficial for power generation. Using a fixed Photovoltaic panels extract maximum energy only during 12 noon to 2 PM in central India which results in less energy efficiency. Therefore, the need to improve the energy efficiency of PV solar panel through building a solar tracking system cannot be over-emphasized. Photovoltaic panels must be perpendicular with the sun in order to get maximum energy. The methodology employed in this work includes the implementation of an arduino based solar tracking system. Light Dependent Resistors (LDRs) are used to sense the intensity of sunlight and hence the PV solar panel is adjusted accordingly to track maximum energy. The mechanism uses servo motor to control the movement of the solar panel. The microcontroller is used to control the servo motor based on signals received from the LDRs. The result of this work has clearly shown that the tracking solar panel produces more energy compared to a fixed panel.

This project discusses on the development of horizontal single axis solar tracker using Arduino which is cheaper, less complex and can still achieved the required efficiency. For the development of horizontal single axis solar tracking system, minimum two light dependent resistors (LDR) has been used for sunlight detection and to capture the maximum light intensity. A servo motor is used to rotate the solar panel to the maximum light source sensing by the light dependent resistor (LDR) in order to increase the efficiency of the solar panel and generate the maximum energy. The efficiency of the system has been tested and compared with the static solar panel on several time intervals. A small prototype of horizontal single axis solar tracking system will be constructed to implement the design methodology presented here. As a result of solar tracking system, solar panel will generate more power, voltage, current value and higher efficiency.

Optimal Design of Pressure Vessels for Enhanced Boiler Performance

A Summary Report submitted to

Chhattisgarh Swami Vivekananda Technical University

Bhilai (C.G.), India

For the Award of the Degree

of

MASTER OF TECHNOLOGY

in

CAD/CAM-ROBOTICS

by

Rupesh Kumar Singh
Enrollment No: CB3364

Under the guidance of

Dr. R. H. Gajghat

Associate Professor, Department of Mechanical Engineering

DEPARTMENT OF MECHANICAL ENGINEERING

CHRISTIAN COLLEGE OF ENGINEERING & TECHNOLOGY

Kailash Nagar, Industrial Estate P.O., Bhilai - 490026

Session 2021-23

DECLARATION

I, the undersigned solemnly declare that the report of the summary entitled as "**Optimal Design of Pressure Vessels for Enhanced Boiler Performance**" is based on my own work which has been carried out under the supervision of **Prof. Amit Sarda**, Associate Professor, Department of Mechanical Engineering.

I emphasize that the statements made and the conclusions drawn are outcomes of my research work. I further certify that:

i. The work contained in the summary is original and has been done by me under the general supervision of my supervisors.

ii. The work has not been submitted to any other institute for any other degree/M.Tech/certificate in this university of India or abroad.

iii. I have followed the guidelines provided by the university for writing the summary.

iv. I have conformed to the norms and guidelines given in the concerned ordinance of the university.

v. Whenever I have used material (data, theoretical analysis, and text) from other sources, I have given due credit to them in the text of the summary and they are cited in the references.

vi. Whenever I have quoted written materials from the other sources, I have put them under quotation marks and have given due credit to the sources by citing them and giving required details in the references.

(Signature of the Supervisor)
Dr. R. H. Gajghat
Professor
Department of Mechanical Engineering
Christian College of Engineering and Technology,
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(Signature of the Candidate)
Rupesh Kumar Singh
Roll No.: 501105821002
Enrolment No.: CB3364

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CERTIFICATE FROM THE EXAMINERS

The thesis entitled as "**Optimal Design of Pressure Vessels for Enhanced Boiler Performance**", submitted by **Rupesh Kumar Singh, Roll No: 501105821002** and **Enrollment No: CB3364,** has been examined by the undersigned as a part of the examination and is hereby recommended for the award of the degree of Master of Technology.

Internal Examiner
Date: 06/04/23
Mr. Amit Sarda

External Examiner
Date:

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Criterion 1

QnM 1.3.2 Project work/field work/ Internships

Design Optimization of Adaptive MacPherson Strut using Comparative Analysis of Particle Swarm and Genetic Algorithm Techniques with ANSYS Simulation

A Summary Report submitted to

Chhattisgarh Swami Vivekananda Technical University

Bhilai (C.G.), India

For the Award of the Degree

of

MASTER OF TECHNOLOGY

in

CAD/CAM-ROBOTICS

by

ROBIN BABU
Enrollment No: CB3362

Under the guidance of

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Associate Professor, Department of Mechanical Engineering

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Kailash Nagar, Industrial Estate P.O., Bhilai - 490026

Session 2021-23

DECLARATION

I, the undersigned solemnly declare that the report of the summary entitled as "**Design Optimization of Adaptive MacPherson Strut using Comparative Analysis of Particle Swarm and Genetic Algorithm Techniques with ANSYS Simulation**" is based on my own work which has been carried out under the supervision of **Prof. Amit Sarda**, Associate Professor, Department of Mechanical Engineering.
I emphasize that the statements made and the conclusions drawn are outcomes of my research work. I further certify that:

i. The work contained in the summary is original and has been done by me under the general supervision of my supervisors.

ii. The work has not been submitted to any other institute for any other degree/M.Tech/certificate in this university of India or abroad.

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iv. I have conformed to the norms and guidelines given in the concerned ordinance of the university.

v. Whenever I have used material (data, theoretical analysis, and text) from other sources, I have given due credit to them in the text of the summary and they are cited in the references.

vi. Whenever I have quoted written materials from the other sources, I have put them under quotation marks and have given due credit to the sources by citing them and giving required details in the references.

(Signature of the Supervisor)
Dr. P. S. Rao
Associate Professor
Department of Mechanical Engineering
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(Signature of the Candidate)
Robin Babu
Roll No.: 501105821003
Enrolment No.: CB3362

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Date: 2023.11.05 11:54:16 +05'30'

CERTIFICATE FROM THE EXAMINERS

The thesis entitled as "**Design Optimization of Adaptive MacPherson Strut using Comparative Analysis of Particle Swarm and Genetic Algorithm Techniques with ANSYS Simulation**", submitted by **Robin Babu, Roll No: 501105821003** and **Enrollment No: CB3362,** has been examined by the undersigned as a part of the examination and is hereby recommended for the award of the degree of Master of Technology.

Internal Examiner
Date: 06/04/23
Mr. Amit Sarda

External Examiner
Date: 06/04/23
Mr. Vicky Kumar

DIPALI SOREN TUDU
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Date: 2023.11.05 11:55:37 +05'30'

Optimization of Helical Gear Performance for Improved Energy Efficiency

A Summary Report submitted to

Chhattisgarh Swami Vivekananda Technical University

Bhilai (C.G.), India

For the Award of the Degree

of

MASTER OF TECHNOLOGY

in

CAD/CAM-ROBOTICS

by

Justin Chacko Pulicktharayil
Enrollment No: CB3363

Under the guidance of

Prof. Chandrashekar Sahu

Associate Professor, Department of Mechanical Engineering

DEPARTMENT OF MECHANICAL ENGINEERING
CHRISTIAN COLLEGE OF ENGINEERING & TECHNOLOGY
Kailash Nagar, Industrial Estate P.O., Bhilai - 490026

Session 2021-23

DECLARATION

I, the undersigned solemnly declare that the report of the summary entitled as "**Optimization of Helical Gear Performance for Improved Energy Efficiency**" is based on my own work which has been carried out under the supervision of **Prof. Amit Sarda**, Associate Professor, Department of Mechanical Engineering.

I emphasize that the statements made and the conclusions drawn are outcomes of my research work. I further certify that:

i. The work contained in the summary is original and has been done by me under the general supervision of my supervisors.

ii. The work has not been submitted to any other institute for any other degree/M.Tech/certificate in this university of India or abroad.

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iv. I have conformed to the norms and guidelines given in the concerned ordinance of the university.

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vi. Whenever I have quoted written materials from the other sources, I have put them under quotation marks and have given due credit to the sources by citing them and giving required details in the references.

(Signature of the Supervisor)
Prof. Chandrashekar Sahu
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Enrolment No.: CB3363

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CERTIFICATE FROM THE EXAMINERS

The thesis entitled as "**Optimization of Helical Gear Performance for Improved Energy Efficiency**", submitted by **Justin Chacko Pulicktharayil, Roll No: 501105821005** and **Enrollment No: CB3363,** has been examined by the undersigned as a part of the examination and is hereby recommended for the award of the degree of Master of Technology.

Internal Examiner
Date: 06/04/23
Mr. Amit Sarda

External Examiner
Date: 06/04/23
Mr. Vicky Kumar

DIPALI SOREN TUDU
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Date: 2023.11.05 11:59:37 +05'30'

Finite Element Analysis and Topology Optimization of Upper Arm of Double Wishbone Suspension

A Summary Report submitted to

Chhattisgarh Swami Vivekananda Technical University

Bhilai (C.G.), India

For the Award of the Degree

of

MASTER OF TECHNOLOGY

in

CAD/CAM-ROBOTICS

by

RISHABH TAMRAKAR
Enrollment No: AM9527

Under the guidance of

Dr. R. H. Gajghat

Associate Professor, Department of Mechanical Engineering

DEPARTMENT OF MECHANICAL ENGINEERING

CHRISTIAN COLLEGE OF ENGINEERING & TECHNOLOGY

Kailash Nagar, Industrial Estate P.O., Bhilai - 490026

Session 2021-23

DECLARATION

I, the undersigned solemnly declare that the report of the summary entitled as "**Finite Element Analysis and Topology Optimization of Upper Arm of Double Wishbone Suspension**" is based on my own work which has been carried out under the supervision of **Prof. Amit Sarda**, Associate Professor, Department of Mechanical Engineering.

I emphasize that the statements made and the conclusions drawn are outcomes of my research work. I further certify that:

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vi. Whenever I have quoted written materials from the other sources, I have put them under quotation marks and have given due credit to the sources by citing them and giving required details in the references.

(Signature of the Supervisor)
Dr. R. H. Gajghat
Professor
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(Signature of the Candidate)
Rishabh Tamrakar
Roll No.: 501105821006
Enrolment No.: AM9527

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CERTIFICATE FROM THE EXAMINERS

The thesis entitled as "**Finite Element Analysis and Topology Optimization of Upper Arm of Double Wishbone Suspension**", submitted by **Rishabh Tamrakar, Roll No: 501105821006** and **Enrollment No: AM9527,** has been examined by the undersigned as a part of the examination and is hereby recommended for the award of the degree of Master of Technology.

Internal Examiner
Date: 06/04/23
Mr. Amit Suda

External Examiner
Date: Vicky 06/04/23 Kumar
06/04/23

DIPALI SOREN TUDU
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Date: 2023.11.05 12:03:53 +05'30'

Enhancing the Performance of Turbine Blades through CAD-Based Design Optimization and Finite Element Analysis

A Summary Report submitted to

Chhattisgarh Swami Vivekananda Technical University

Bhilai (C.G.), India

For the Award of the Degree

of

MASTER OF TECHNOLOGY

in

CAD/CAM-ROBOTICS

by

Bhupesh Sonkar
Enrollment No: AP6693

Under the guidance of

Prof. AMIT SARDA

Associate Professor, Department of Mechanical Engineering

DEPARTMENT OF MECHANICAL ENGINEERING
CHRISTIAN COLLEGE OF ENGINEERING & TECHNOLOGY
Kailash Nagar, Industrial Estate P.O., Bhilai - 490026

Session 2021-23

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 12:05:13 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

DECLARATION

I, the undersigned solemnly declare that the report of the summary entitled as "**Enhancing the Performance of Turbine Blades through CAD-Based Design Optimization and Finite Element Analysis**" is based on my own work which has been carried out under the supervision of **Prof. Amit Sarda**, Associate Professor, Department of Mechanical Engineering.
I emphasize that the statements made and the conclusions drawn are outcomes of my research work. I further certify that:

i. The work contained in the summary is original and has been done by me under the general supervision of my supervisors.

ii. The work has not been submitted to any other institute for any other degree/M.Tech/certificate in this university of India or abroad.

iii. I have followed the guidelines provided by the university for writing the summary.

iv. I have conformed to the norms and guidelines given in the concerned ordinance of the university.

v. Whenever I have used material (data, theoretical analysis, and text) from other sources, I have given due credit to them in the text of the summary and they are cited in the references.

vi. Whenever I have quoted written materials from the other sources, I have put them under quotation marks and have given due credit to the sources by citing them and giving required details in the references.

(Signature of the Supervisor)
Prof. Amit Sarda
Associate Professor
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Christian College of Engineering and Technology,
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(Signature of the Candidate)
Bhupesh Sonkar
Roll No.: 501105821001
Enrolment No.: AP6693

DIPALI SOREN TUDU
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Date: 2023.11.05 12:06:28 +05'30'

CERTIFICATE FROM THE EXAMINERS

The thesis entitled as "**Enhancing the Performance of Turbine Blades through CAD-Based Design Optimization and Finite Element Analysis**", submitted by **Bhupesh Sonkar, Roll No: 501105821001** and **Enrollment No: AP6693,** has been examined by the undersigned as a part of the examination and is hereby recommended for the award of the degree of Master of Technology.

Internal Examiner
Date: 06/04/23
Mr. Amit Sarda.

External Examiner
Date: 06/04/23
Mr. Vicky Kumar

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 12:07:45 +05'30'

Wireless charger using solar panel

A Thesis submitted

to

CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY

BHILAI (C.G.), India

In partial fulfillment

For the award of the Degree

of

Master of Technology

In

High Voltage Engineering

By

AKASH KUMAR YADAV

Under the guidance of

Dr. Shailendra Verma

Assistant Professor

High Voltage Electrical Engineering

Christian College of Engineering & Technology Bhilai

Session 2021-2023

Certificate by the Examiners

The Thesis entitled" Wireless charger using solar panel"
Submitted by (Roll No. 501101021002 Enrollment No. AM9670)
has been examined by the undersigned as a part of the examination and is hereby recommended for the award of the degree of Master of Engineering/Technology in the faculty of Chhattisgarh Swami Vivekanand Technical University ,Bhilai .

SV
Internal Examiner
Date: 06/04/2023

External Examiner
Date: 06/04/2023

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 12:10:27 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

Abstract:

This paper presents the design and implementation of a solar-powered wireless charger, aimed at providing an eco-friendly and sustainable solution for charging mobile devices. The system utilizes a high-efficiency solar panel to harness renewable solar energy and converts it into electrical power. The harvested energy is then wirelessly transmitted to compatible devices using Qi wireless charging technology. The proposed system offers a portable and convenient charging option for smartphones, tablets, and other wireless charging-enabled gadgets, reducing the dependence on conventional electricity sources and contributing to the reduction of carbon emissions. The study includes an analysis of the solar panel's performance, wireless charging efficiency, and practicality for everyday usage. The findings demonstrate the viability of the solar-powered wireless charger as a promising green alternative for charging mobile devices, especially in outdoor and off-grid scenarios, promoting sustainability and environmental

In this study, we present the development and evaluation of a solar-powered wireless charger as an eco-friendly and energy-efficient solution for charging mobile devices. The system incorporates a photovoltaic solar panel, which efficiently converts solar energy into electrical power. Through an advanced wireless charging mechanism, this harvested energy is transmitted to compatible devices using the widely adopted Qi wireless charging standard. We explore the design considerations, efficiency, and practicality of the solar charger in various lighting conditions and charging scenarios. Additionally, a comparison with conventional wired charging methods is conducted to assess its sustainability benefits. Our results indicate that the solar-powered wireless charger offers a promising alternative, reducing dependency on traditional power sources and contributing to environmental preservation by utilizing clean, renewable energy. This work highlights the potential of solar-powered wireless charging as a viable and eco-conscious option for meeting the escalating energy demands of mobile devices in a sustainable manner.

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 12:11:43 +05'30'

Dynamics and Stability of Meshed Multi terminal HVDC Networks

A Thesis submitted

To

CHHATTISGARH SWAMI VIVEKANAND TECHNICAL

UNIVERSITY

BHILAI (C.G.), India

In partial fulfilment

For the award of the Degree

Of

Mater of technology

In

High Voltage Engineering

By

AATIFA FATIMA

Under the Guidance of

Mr. SHAILENDRA VERMA

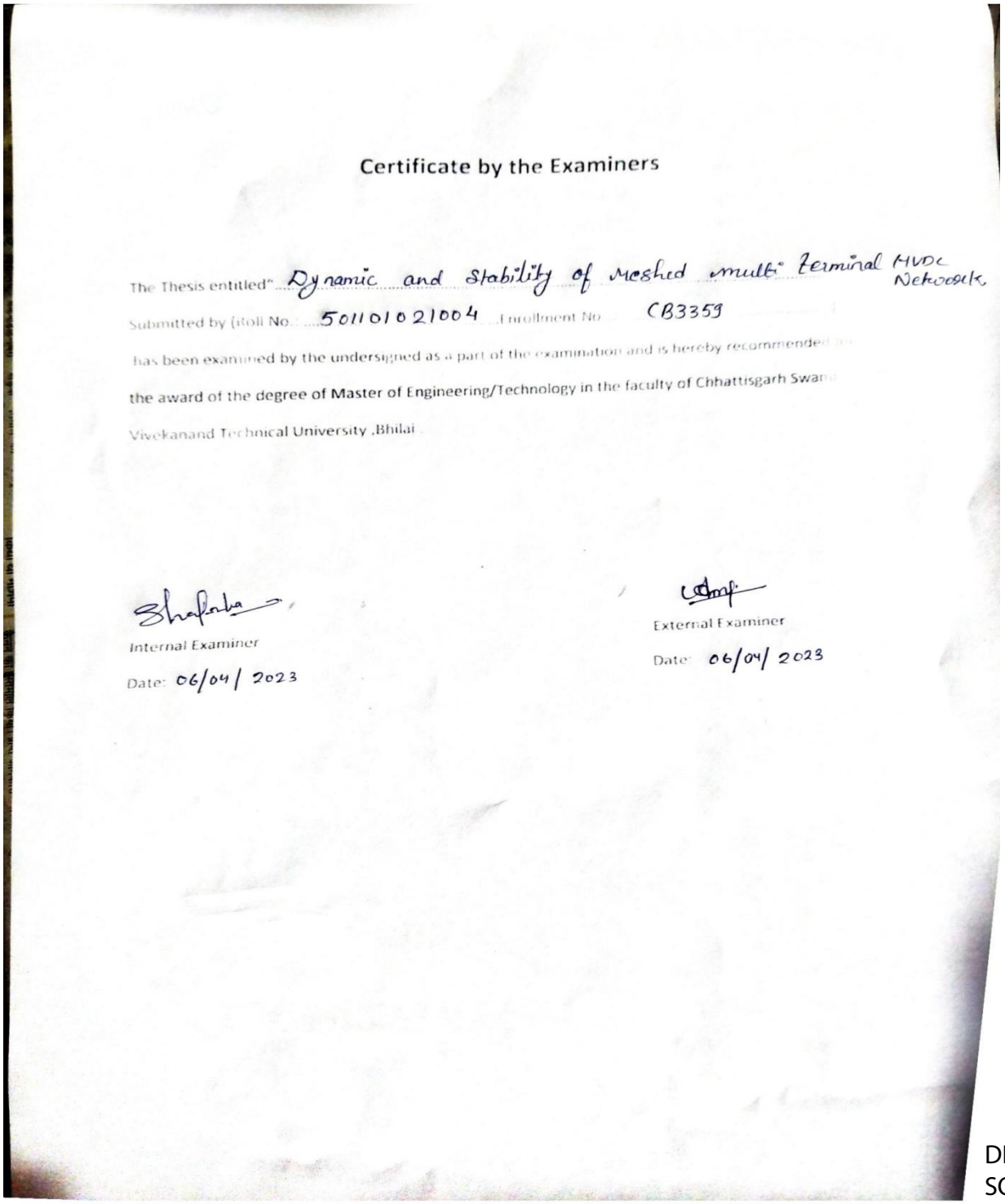
(HOD)

Department Of Electrical Engineering

Christian College Of Engineering And Technology

Kailash Nagar, BHILAI

Session 2021-2023



Certificate by the Examiners

The Thesis entitled "Dynamic and Stability of Meshed multi terminal HVDC Networks"

Submitted by (Roll No. 501101021004 Enrollment No. CB3359

has been examined by the undersigned as a part of the examination and is hereby recommended for

the award of the degree of Master of Engineering/Technology in the faculty of Chhattisgarh Swami

Vivekanand Technical University ,Bhilai

Shafaka

Internal Examiner

Date: 06/04/2023

External Examiner

Date: 06/04/2023

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 12:14:37 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

ABSTRACT:

In multi-terminal HVDC grids, this work explores if an equilibrium point exists, evaluates its uniqueness, and specifies parameters to guarantee its stability. As a testing instance, an offshore multi-terminal HVdc system with two wind farms has been selected. To begin, a multigraph theory-based generalised dynamic network model is developed. Using droop regulation, this nonlinear model captures the frequency dependence of transmission lines and cables and presents a reasonable degree of simplifications for modular multilevel converters under specific conditions, allowing system level investigations over potentially huge networks to be conducted. The banach fixed point theorem, which is based on this model, can be used to show that the equilibrium point exists and is unique. Krasovskii's theorem is used to derive a Lyapunov function for the stability of the equilibrium. The existence and stability of the equilibrium point is confirmed by the results of computations on the selected four-terminal HVDC grid.

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 12:15:57 +05'30'

Energy audit of a pump set

A Thesis submitted
To

CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY
BHILAI (C.G.), India

In partial fulfillment
For the award of the Degree
of
Master of Technology
in
Dr. Shailendra Verma
by
Nikita Tigga
High Voltage Engineering

Under the Guidance of
Dr. Shailendra Verma
Assistant Professor

Electrical Department
Christian College of Engineering and Technology
Kailash Nagar, Industrial Estate,
Bhilai (C.G.)
Session : Nov-Dec 2022

Certificate by the Examiners

The Thesis entitled "Energy Audit of a Pump Set"

Submitted by (Roll No.: 501101021007 Enrollment No BA6719)

has been examined by the undersigned as a part of the examination and is hereby recommended for the award of the degree of Master of Engineering/Technology in the faculty of Chhattisgarh Swami Vivekanand Technical University, Bhilai.

Internal Examiner

Date: 06/04/2023

External Examiner

Date: 06/04/2023

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 12:19:10 +05'30'

Abstract

The study involves an energy audit of Pumps used to pump fluid from lower level to higher level by usingelectrical energy. A case study was conducted on centrifugal pumps at Water treatment plant,series of energy audit was conducted to record various parameters viz., discharge, pressure, voltage, current, power, powerfactor and efficiencies to calculate the total electrical energy consumption per day and total actual energy use per day,maximum (VA)demand, maximum (KW) demand, consumption figures of the whole pump in the plant, energy costfigures of the plant in (KWh), where we discovered very high energy wastage during operation .Therefore ways to reduceenerg y consumption by the replacement of the present pumps with inverter compatible energy efficient pumps and various conservation methods are recommended for optimum. utilization, this study will help other pumping stations.

The current paper aims at presenting a standardized auditing scheme for assessing energy efficiency in water supply systems. The main innovation in this scheme is the direct link to the water auditing in order to encourage water utilities to carry out the joint management of water losses and related energy efficiency. Key energy efficiency indices are calculated based on the energy auditing without the need of using hydraulic modelling. Two case-studies are explored and discussed. This paper shows that specific energy consumption and pump efficiency are not sufficient to evaluate the energy efficiency of a given system.

DIPALI SOREN TUDU

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Energy Auditing on Distribution System

A Thesis submitted
to

CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY
BHILAI (C.G.), India

In partial fulfillment
For the award of the Degree
of

Master of Technology

in

Dr. Shailendra Verma

by

Bhupesh Kashyap
High Voltage Engineering

Under the Guidance of
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Assistant Professor

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Session: 2022-23

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Criterion 1

QnM 1.3.2 Project work/field work/ Internships

Abstract

Energy Audit is the key to a methodical approach for decision-making in the area of energy management. The energy management is necessary for procurement and utilization of energy through optimum management, throughout the area. Energy Management and Energy Audit is conducted to save money by saving the energy for different sort of industries, institution, hospitals, domestic areas, etc., under the recommendations given by the energy audit team. These management and audit teams find out the areas, where there is wastage of electricity and implements the effective and proper use of energy. Through efficient energy management and auditing methods, environment can be protected; energy and money can be saved without affecting the natural and quality ongoing work in any sectors. This paper briefly describes about importance of energy audit and energy management in and around our place of living

Electric utilities in India are facing the pressure of reducing costs and improving the quality and reliability of supply. Though the generation and transmission systems have been considerable technical development and capital investment, the distribution systems been neglected and suffered due to poor operating efficiencies leading to high losses. The work is aimed at Energy Auditing of 11kV Distribution Feeder and preparing perfect energy balance sheet of 11kV Distribution Feeder with recommendations to improve overall efficiency of the system

ENERGY AUDIT OF COMMERCIAL BUILDING

A Thesis submitted

to

CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY

BHILAI (C.G.), India

In partial fulfillment

For the award of the Degree

of

Master of Technology

in

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Abstract

A commercial Energy Audit is performed to understand energy usage patterns in commercial buildings to reduce an organization's carbon footprint, ensure compliance, and promote an overall healthy environment. Electricity is an essential part of our daily lives. Because only a limited number of resources may be used to generate electricity, these resources or electricity must be saved for future use. This is only possible if energy is used as effectively as possible. Energy auditing is critical for both sustainable development and energy conservation. In this article, a report how to do energy audit of building is submitted. An Energy Audit can be simply defined as a process of evaluating a building for the usage of electricity and identifying the opportunities to reduce consumption. Project should be developed and implemented in a structured and efficient way, requiring good Energy Auditing and project management methods and tools. The Energy Conservation Building Code (ECBC) has been modified extensively over the years, starting from its initial deployment in year 2011 to its latest modifications in year 2019. The Energy Conservation Standards in ECBC apply to building envelope, heating ventilation, air conditioning, lightning, service water heating and electric power distribution. By conducting an investigation of energy consumption, the energy audit focuses mainly on equipment consumption, especially on air conditioning system, electronic equipments, lightning system, and elevators etc. The energy management is necessary for procurement and utilization of energy through optimum management, throughout the area.

Energy management and energy audit is conducted to save money by saving the energy for different sort of industries, institution, hospitals, domestic area etc. under the recommendations given by the energy audit team. These management and audit teams find out the areas where there is wastage of electricity and implements the effective and proper use of energy. Through efficient energy management and auditing methods, environment can be protected, energy and money can be saved without affecting the natural and quality Ongoing work in any sectors. The Energy Audit provides the vital information base for overall energy conservation program covering essentially energy utilization analysis and evaluation of energy conservation measures. Various energy audits have been undertaken at various places and the results are evaluated in the literature. This paper tries to observe, infer ,and analyze the patterns of energy usage of a commercial building and various measures to reduce energy consumption and cost saving. A case study is included to analyze the reduction in consumption of energy per unit to make building energy efficient. A feasible study is executed to observe the increments in costs . Calculations for auditing will reduce the building's carbon footprint and benefit owners in the form of cost savings in long run.

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Energy Audit of High Efficient Transformer

A Thesis submitted

to

CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY

BHILAI (C.G.), India

In partial fulfillment

For the award of the Degree

of

Master of Technology

in

High Voltage Engineering

by

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Session: 2021-2023

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Abstract

The requirement for managing Distribution system continue to present new challenges. Electricity is one of the most vital infrastructure inputs for Economic development of a country. To balance this demand and supply of electricity, it is the time for electric utilities to go for energy efficient equipment for huge saving as this would be utilized for future needs. Therefore, Great effort has been directed to increasing the efficiency of Distribution transformers and consequently reducing the losses and, hence the operational costs.

Audit means gathering and collecting Information in a specially designed, "Energy system questionnaire" formate, for the industry under study. Inter and intra -industry comparison of the collected data. Assessment of present efficiency index for energy consumption in the process. In depth study of plant operation, equipment and systems for the energy systems to assess the operational efficiency and potential for economising. Evaluation of the detailed recommendations for energy saving, formulation of detailed action plans in consultation with plant management of the identified energy saving measures. Training operating personnel in the specifics of energy conservation to enable them to implement the recommendations and also to monitor the progress on a periodic basis.

In an energy audit of a power Distribution system, the energy losses are to be computed for each element of the Network on the basis of actual energy sent out and actual consumption as recorded by the meter installed on both side of element. It may not possible to conduct energy audit for the entire power system of a utility in on go. Hence it may have to be conducted in stages. 1) Assessing load factor and loss load factor in which copper loss of all transformer is calculated.
2) Distribution transformer losses in which No-load i.e. iron losses is calculated.
3) Calculation of LT line and Network losses are calculated and many more.
These values are compared with the ideal transformer efficient tables at same rating.

Continues Online PD Monitoring for HV Cables

A Thesis submitted

To

CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY

BHILAI(C.G.),INDIA

In partial fulfillament

For the award of the Degree

Of

Master of Technology

In

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By

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Criterion 1

QnM 1.3.2 Project work/field work/ Internships

Abstract

This paper discusses data acquisition, transmission and processing methodologies for continuous on-line monitoring of partial discharges in high voltage cable systems. A PD continuous on-line monitoring system for underground cable circuits using capacitive couplers, LiNbO3 electro-optic modulators, laser, optical switch and optical fibers has been developed. Future research will consider effective data processing methods that will allow continuous monitoring of asset health and possibly facilitate lifetime prediction

The most effective method of monitoring insulation condition in high voltage distribution cables is by continuous on-line partial discharge monitoring. However, on-site partial discharge measurement sensitivity can be limited by high levels of interference which can make it difficult to obtain and interpret adequate PD data for insulation assessment purposes. Differential circuit methods can be used to reject common mode interference but for high frequency non-conventional PD methods the standard balanced circuit will not produce satisfactory noise-free results, especially for medium or longer length power cables. A software based differential technique has been developed and has proved effective for on-line PD monitoring of power cables. The method gives good interference rejection and the sensitivity is suitable for assessment of both extruded and paper insulated cablesIn most insulation materials the dielectric deterioration is normally accompanied by partial discharge (PD) activity and thus PD monitoring is the most effective and sensitive assessment method available. PD measurement is thus now very widely used for insulation condition monitoring in all items of high voltage equipment. :Smart Grid concept substantially increases the power measurement need in the future for efficient and guaranteed power delivery. The medium voltage (MV) cable is an important asset of a distribution network and it must guarantee a stable operation of the supply. With the increasing age of the underground MV cables in power grids, the accident and failure arising from insulation degradation is becoming one of the main challenges against power system reliability. It is also essential economically to extend the life span of the medium voltage cable. Continuous on-line partial discharge (PD) monitoring is an excellent way to determine the overall health of the MV components and to detect incipient faults in underground cables. However, continuous on-line PD monitoring is not widely used primarily because no adequate cost-effective solution is available for permanent installation. This paper presents the development of a versatile solution for continuous on-line PD monitoring of MV cables at secondary substation. The laboratory tests and data analysis exhibit the capability of the proposed system to detect PD signals successfully.

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Energy Audit as a Tool for Improving System Efficiency in Industrial Sector

A Thesis submitted

to

CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY

BHILAI (C.G.), India

In partial fulfillment

For the award of the Degree

of

Master of Technology

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High Voltage Engineering

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ABSTRACT

This paper presents the characteristics of energy consumption in industrial sector, the methodology and results of energy audits (EA) performed in industrial sites and potentials for energy efficiency (EE) improvements. The present state of industrial energy in India could be characterized by significant technological out-of–date, low energy efficiency and low level of environmental protection. Presented analysis of the results of conducted energy audits in selected industrial companies in previous period has shown the significant potentials for energy efficiency improvements in industrial sector (upgrading or replacement of equipment in the industrial energy sources and processes, introduction of energy management, improvement of steam supply and condensate return systems, the waste heat utilization, introduction of energy efficiency technology, improvement of energy efficiency in electrical equipment, usage of waste materials etc).

Energy audit is an inspection, survey and analysis of energy flows for energy conservation in a building, process or system to reduce the amount of energy input into the system without affecting the output. Obtains an adequate knowledge of existing energy consumption profile of the site.

KEYWORDS- Energy Audit; Industrial sector; Energy Efficiency

Online MVAr Control in High Voltage Transmission System

A Thesis submitted

To

CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY BHILAI (C.G.), India

In partial fulfillment

For the award of the degree

of

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in

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Abstract: The output generated from a generating station has basically two complex components, active power and the reactive power.But it is general assumption that the only the active power is the working power and it is the output for which everyone is paying for, thus the VAR component neglected and unwanted by everyone alike. But it is also true that, wherever there is active power, there will always be reactive power and it is critical not only in transfer of active power but also in the driving of the inductive loads like motors ,residential loads etc. As such, there is no option to eliminate the reactive power but it can be mitigated to control the voltage and to reduce the load on the transmission lines.

Active power (MW) is controlled only by the prime mover and the reactive power is controlled by the automatic voltage regulator (AVR) , which creates field in the rotor to develop the flux as per the design of machine.There are various other external methods to control the reactive power (MVAr) in HV Grid.

The generated voltage and power is delivered through long transmission line ,the voltage at each point of the transmission line is calculated by the reactive power absorbed in the line.If the voltage is increased/overvoltage conditions, then suitable inductive compensators need to be placed which absorbs the excess reactive power and if voltage is decreased/dip, then suitable capacitive compensators need to be placed which supply/pump reactive power to maintain the voltage level at the load end. This paper, delibrates about the online MVAr compensation in HV Grid to maintain the generated voltage in the transmission lines without effecting the active power transfer.

"STUDIES OF STRUCTURAL, MORPHOLOGICAL AND OPTICAL PROPERTIES OF CALCIUM OXIDE NANOPARTICLES"

A Summary Report Submitted to

Chhattisgarh Swami Vivekanand Technical University

Bhilai (C.G.), India

For the Award of Degree

of

MASTER OF TECHNOLOGY

in

NANOTECHNOLOGY

by

SANDHYA MINJ

Enrolment No.: BD1750

Under the Guidance of

Dr. ANJU SINGH

Assistant Professor, Department of Physics

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CHRISTIAN COLLEGE OF ENGINEERING AND TECHNOLOGY

Kailash Nagar, Industrial Estate, Bhilai (C.G.), Pin: 490026

Session: 2021-23

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DECLARATION BY THE CANDIDATE

I the undersigned solemnly declare that the report of the thesis work entitled **"STUDIES OF STRUCTUAL, MORPHOLOGICAL AND OPTICAL PROPERTIES OF CALCIUM OXIDE NANOPARTICLES"** is based on my own carried out during the course of my study under the supervision of Dr. Anju Singh. I assert that the statements made and conclusions drawn are an outcome of my research work. I further declare that to the best of my knowledge and belief the report does not contain any part of any work which has been submitted for the award of M. Tech. degree or any other degree/diploma/certificate in this University/deemed University of India or any other country.

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Criterion 1

QnM 1.3.2 Project work/field work/ Internships

CERTIFICATE OF THE SUPERVISOR

This is to certify that the work incorporated in the thesis entitled **"STUDIES OF STRUCTUAL, MORPHOLOGICAL AND OPTICAL PROPERTIES OF CALCIUM OXIDE NANOPARTICLES"** is a record of research work carried out by Sandhya Minj bearing Enrolment No.: BD1750, Roll No. 501104721001 under my guidance and supervision for the award of M. Tech. degree in Electronics and Telecommunication with specialization in Nanotechnology of Chhattisgarh Swami Vivekanand Technical University, Bhilai (C.G.), India.

To the best of my knowledge and belief,

i. the thesis Embodies the work of the candidate himself,
ii. Has duly been completed,
iii. Fulfils the requirement of the Ordinance relating to the M. Tech. Degree of the University &
iv. Is up to the desired standard both in respect of contents and language for being referred to the examiners.

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To the best of my knowledge and belief,

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ii. Has duly been completed,
iii. Fulfils the requirement of the Ordinance relating to the M. Tech. Degree of the University &
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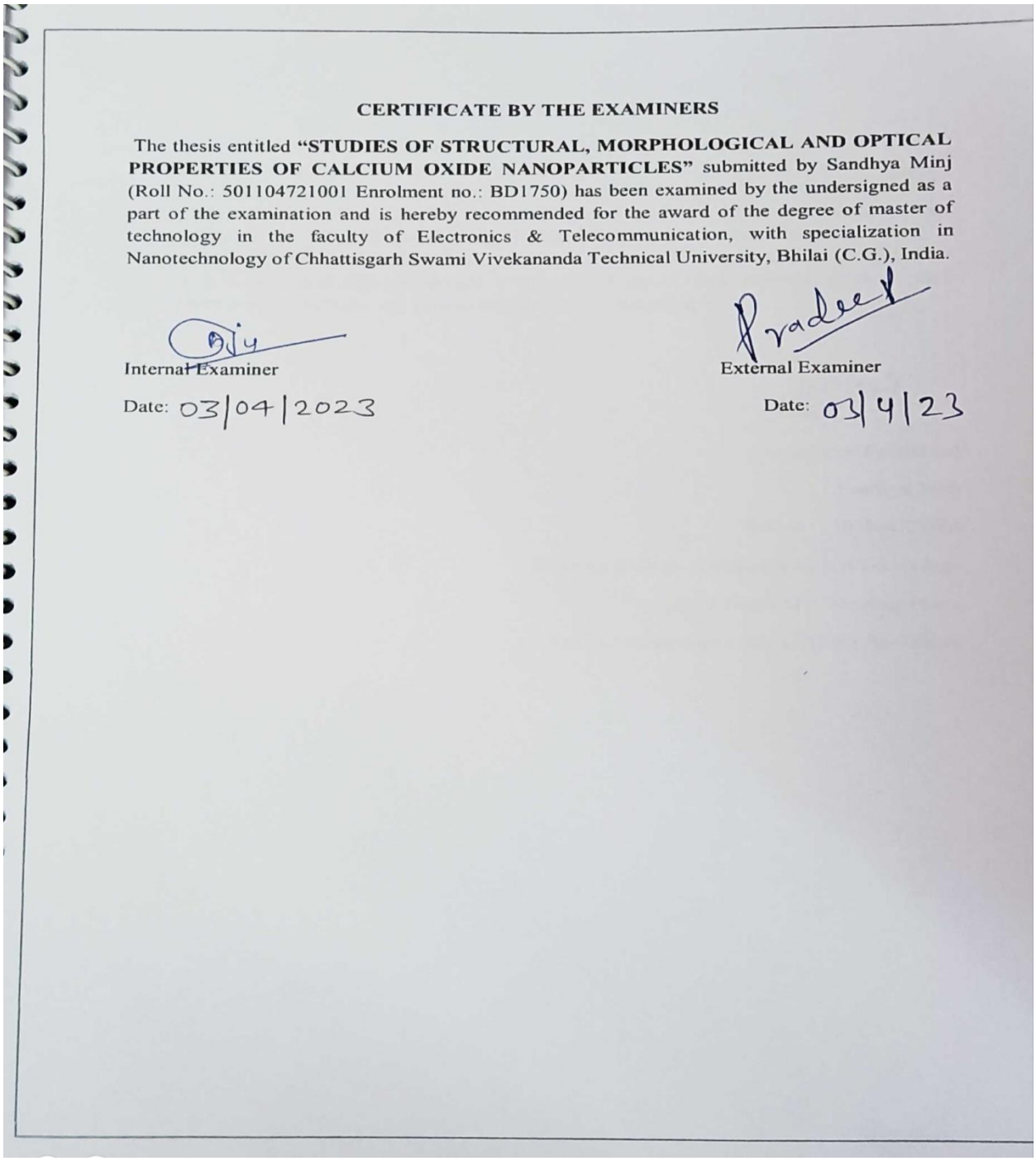
Criterion 1

QnM 1.3.2 Project work/field work/ Internships



CERTIFICATE BY THE EXAMINERS

The thesis entitled **"STUDIES OF STRUCTURAL, MORPHOLOGICAL AND OPTICAL PROPERTIES OF CALCIUM OXIDE NANOPARTICLES"** submitted by Sandhya Minj (Roll No.: 501104721001 Enrolment no.: BD1750) has been examined by the undersigned as a part of the examination and is hereby recommended for the award of the degree of master of technology in the faculty of Electronics & Telecommunication, with specialization in Nanotechnology of Chhattisgarh Swami Vivekananda Technical University, Bhilai (C.G.), India.

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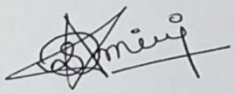

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ABSTRACT

Calcium Oxide (CaO) nanoparticles (NPs) are gaining much attention as they possess unique properties, are highly stable, less expensive and easy to produce and find wide applications in water purification, drug delivery systems, therapeutics and phototherapy. Although there are several physical and chemical methods useful in synthesizing these NPs, an environment friendly, non-toxic and less expensive technique of synthesis is always desirable. A green approach is non-toxic, efficient, gives high yield of products and is environment friendly. Plant mediated green synthesis technique has been employed in this work to synthesis CaO NPs.

CaO NPs were synthesized using Murraya Koenig (MK) leaf extract by Sol gel method using green approach at calcination temperatures 200°C. The synthesized NPs were characterized by X-Ray Diffraction (XRD), Scanning Electron Microscopy (SEM) and Also performed Optical Absorption spectral studies, Photoluminescence (PL) Emission spectra studies. XRD studies show the presence of planes of CaO cubic phase. SEM images show a non- uniform distribution of spherical particles along with formation of clusters. The optical absorbance spectra show rise and fall in absorbance between 200 to 800 nm. The bandgap values of CaO NPs prepared by green synthesis were found to be in the range 1.0 eV to 2.2 eV. PL Emission spectra show that CaO NPs exhibit photoluminescence in the visible region (green region) and the emission intensity increases with increasing calcination temperature. The present work suggests that CaO NPs with good optical properties can be synthesized successfully by green synthesis technique.

Keywords: Nanoparticles, CaO, Green synthesis, Murraya Koenig, Catalysis, Biotechnology, Drug delivery systems, Optical properties.

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Mr./Miss. AVINASH EKKA

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2. FUNDAMENTALS OF PLC.
3. PROGRAMMING OF PLC IN VARIOUS LANGUAGE (LAD & FBD).
4. HANDS ON PRACTICE WITH PLC PROGRAMMING.
5. PC TO PLC COMMUNICATION.
6. TROUBLESHOOTING & DIAGNOSTIC OF PLC.

Period of Course From : 22.08.2023 To : 21.09.2023

Date of Award : 21.09.2023

Course co-ordinator

Training Incharge

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CERTIFICATE OF EXCELLENCE BY SCALER

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 13:09:43 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

An ISO 9001:2015 Certified Company

SEED IT SOLUTION

Learn By IT Professionals

CERTIFICATE

This is to Certify that

AAKASH KASHYAP

has Completed his/her Vocational Training During

01 JULY 2023 *to* 31 JULY. 2023

on

WEB DEVELOPMENT

With the Grade

A+

Seed IT Solution Vocational Training

Director

SEED IT SOLUTION
B-41, SMRITI NAGAR
BHILAI, DISTT.-DURG (C.G.

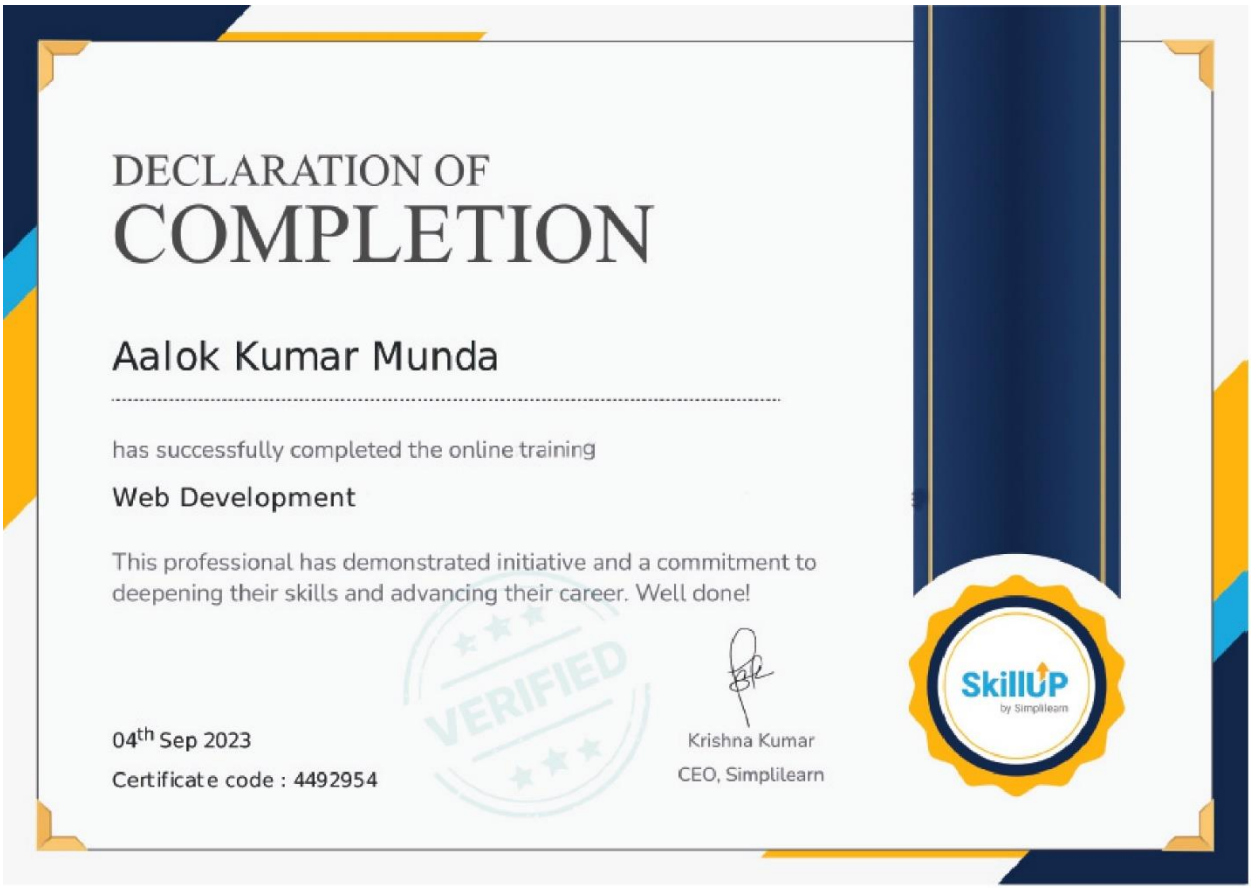
Date: 05 AUG. 2023

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 13:11:30 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships



DECLARATION OF
COMPLETION

Aalok Kumar Munda

has successfully completed the online training

Web Development

This professional has demonstrated initiative and a commitment to deepening their skills and advancing their career. Well done!

04th Sep 2023

Certificate code : 4492954

Krishna Kumar
CEO, Simplilearn

SkillUP
by Simplilearn

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 13:13:18 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

DECLARATION OF
COMPLETION

Abhishek Kumar

has successfully completed the online training

Web Development

This professional has demonstrated initiative and a commitment to deepening their skills and advancing their career. Well done!

04th Sep 2023

Certificate code : 4492994

Krishna Kumar
CEO, Simplilearn

SkillUP
by Simplilearn

VERIFIED

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 13:15:03 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

DECLARATION OF
COMPLETION

Alvin Sam Jacob

has successfully completed the online training

Web Development

This professional has demonstrated initiative and a commitment to deepening their skills and advancing their career. Well done!

20th Sep 2023

Certificate code : 4492995

Krishna Kumar
CEO, Simplilearn

SkillUP
by Simplilearn

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 13:16:49 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

Sensible COMPUTERS Software Solutions
An ISO 9001:2008 Certified Firm

Vocational / Industrial Training CERTIFIED TEMS COMPANY
AN ISO 9001:2008 QUALITY MANAGEMENT SYSTEM

Certificate

This is to certify that

DURGA

participated in Industrial Training conducted on

HTML, CSS, MYSQL, PHP, JAVA SCRIPT

from **28/07/2023** to **28/08/2023**

He/She has completed the training successfully.

He/She bears a good moral character to the best of my knowledge and belief.

We wish him/her all the success for his / her future assignment and responsibilities.

Certificate No. :- **10794**

Director
Piyush Jain

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 13:18:41 +05'30'

Head Office : 106, D Block, Om-Parisar, Durg (C.G.)
Branch Office : B/492, Cross Street-25, Second Floor, Smriti Nagar, Bhilai (C.G.)
website : www.sensible-computers.com, email : piyush.jain@sensible-computers.com

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

An ISO 9001:2015 Certified Company

SEED IT SOLUTION

Learn By IT Professionals

CERTIFICATE

This is to Certify that

NAVYA KUMAR RAM

has Completed his/her Vocational Training During

01 JULY 2023 *to* 31 JULY 2023

on

WEB DEVELOPMENT

With the Grade

A+

Seed IT Solution Vocational Training

Director

SEED IT SOLUTION
B-41, SMRITI NAGAR
BHILAI, DISTT.-DURG (C.G.)

Date: 05 AUG. 2023

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 13:20:34 +05'30'

CERTIFICATE
OF EXCELLENCE

THIS CERTIFICATE IS AWARDED TO

SCALER Topics

Nidhi

In recognition of the completion of the Vocational Training : **Python Course for Beginners With Certification : Mastering the Essentials**

Following are the the learning items, which are covered in this Vocational Training :

121 Video Tutorials 16 Modules 10 Challenges

Start Date : 15.07.2023
End Date : 15.08.2023

Anshuman Singh
Co-founder **SCALER**

CERTIFICATE OF EXCELLENCE BY SCALER

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 13:22:25 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

Sensible COMPUTERS Software Solutions
An ISO 9001:2008 Certified Firm

Vocational / Industrial Training
CERTIFIED
TCMS
COMPANY
AN ISO 9001:2008
QUALITY MANAGEMENT SYSTEM

Certificate

This is to certify that

NUTAN

participated in Industrial Training conducted on

HTML, CSS, MYSQL, PHP, JAVA SCRIPT

from **28/07/2023** to **28/08/2023**

He/She has completed the training successfully.

He/She bears a good moral character to the best of my knowledge and belief.

We wish him/her all the success for his / her future assignment and responsibilities.

Certificate No. :- **10795**

SENSIBLE COMPUTERS DIRECTOR BHILAI

Director

Piyush Jain

Head Office : 106, D Block, Om-Parisar, Durg (C.G.)
Branch Office : B/492, Cross Street-25, Second Floor, Smriti Nagar, Bhilai (C.G.)
website : www.sensible-computers.com, email : piyush.jain@sensible-computers.com

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 13:24:18 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

Reg. No. DSVT23242

सत्यमेव जयते
GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
& ENTREPRENEURSHIP

N·S·D·C
National
Skill Development
Corporation
Transforming the skill landscape

Digitalशाखा
Think - Innovate - Design
ISO 9001:2015 Certified Company

Certificate of Completion

This is to certify that

Mr. / Ms Rajnish Kumar

has successfully completed training on Full Stack Development

From 20 Aug 2023 To 20 Sep 2023

at Digitalshakha

issue Date : 22 - Sep - 2023

DIGITALSHAKHA
ISO 9001:2015
CERTIFIED COMPANY
Seal

Director
Digitalshakha

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 13:26:13 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

Sensible COMPUTERS
Software Solutions
An ISO 9001:2008 Certified Firm

Vocational / Industrial Training
CERTIFIED TCMS COMPANY
AN ISO 9001:2008
QUALITY MANAGEMENT SYSTEM

Certificate

This is to certify that

SANDEEP SIKDAR

participated in Industrial Training conducted on

Data Structure With Java

from **10-Jul-2023** to **25-Aug-2023**

He/She has completed the training successfully.

He/She bears a good moral character to the best of my knowledge and belief.

We wish him/her all the success for his / her future assignment and responsibilities.

Certificate No. :- **10796**

SENSIBLE COMPUTERS S. BHILAI DIRECTOR

Director
Piyush Jain

Head Office : 106, D Block, Om-Parisar, Durg (C.G.)
Branch Office : B/492, Cross Street-25, Second Floor, Smriti Nagar, Bhilai (C.G.)
website : www.sensible-computers.com, email : piyush.jain@sensible-computers.com

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 13:28:07 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

Sensible COMPUTERS
Software Solutions
An ISO 9001:2008 Certified Firm

Vocational / Industrial Training
CERTIFIED
TOMS
COMPANY
AN ISO 9001:2008
QUALITY MANAGEMENT SYSTEM

Certificate

This is to certify that

SULTANA KHATUN

participated in Industrial Training conducted on

Data Structure With Java

from **10-Jul-2023** to **25-Aug-2023**

He/She has completed the training successfully.

He/She bears a good moral character to the best of my knowledge and belief.

We wish him/her all the success for his / her future assignment and responsibilities.

Certificate No. :- **10798**

SENSIBLE COMPUTERS DIRECTOR BHILAI

Director
Piyush Jain

Head Office : 106, D Block, Om-Parisar, Durg (C.G.)
Branch Office : B/492, Cross Street-25, Second Floor, Smriti Nagar, Bhilai (C.G.)
website : www.sensible-computers.com, email : piyush.jain@sensible-computers.com

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 13:30:11 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

Deltiin India Tech Private Limited

Certificate of Internship

This internship program certificate is awarded to

Ashish Parsad Arya

For his/her completion of the internship program at Deltiin India Tech Pvt Ltd from 10th July to 8th August 2023

Deltiin India Tech Pvt. Ltd.

Dr Arun Patokar

CEO

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 13:32:09 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

Deltiin India Tech Private Limited

DITPL

Certificate of Internship

This internship program certificate is awarded to

G Ramu

For his/her completion of the internship program at Deltiin India Tech Pvt Ltd from 10th July to 8th August 2023

Deltiin India Tech Pvt. Ltd.

Dr Arun Patokar
CEO

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 13:34:07 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

Deltiin India Tech Private Limited

DITPL

Certificate of Internship

This internship program certificate is awarded to

Himanshu Sahu

For his/her completion of the internship program at Deltiin India Tech Pvt Ltd from 10th July to 8th August 2023

Deltiin India Tech Pvt. Ltd.

Dr Arun Patokar
CEO

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 13:36:17 +05'30'

Deltiin India Tech Private Limited

DITPL

Certificate of Internship

This internship program certificate is awarded to

Rajesh Shrivastav

For his/her completion of the internship program at Deltiin India Tech Pvt Ltd from 10th July to 8th August 2023

Deltiin India Tech Pvt. Ltd.

Dr Arun Patokar
CEO

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 13:38:38 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

Deltiin India Tech Private Limited

Certificate of Internship

This internship program certificate is awarded to

Vicky Kumar

For his/her completion of the internship program at Deltiin India Tech Pvt Ltd from 10th July to 8th August 2023

Deltiin India Tech Pvt. Ltd.

Dr Arun Patokar
CEO

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.0
13:40:52 +05'3

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

Deltiin India Tech Private Limited

DITPL

Certificate of Internship

This internship program certificate is awarded to

Manohar Kumar

For his/her completion of the internship program at Deltiin India Tech Pvt Ltd from 10th July to 8th August 2023

Deltiin India Tech Pvt. Ltd.

Dr Arun Patokar
CEO

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 13:43:11 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

Deltiin India Tech Private Limited

Certificate of Internship

This internship program certificate is awarded to

Robin Roy

For his/her completion of the internship program at Deltiin India Tech Pvt Ltd from 10th July to 8th August 2023

Deltiin India Tech Pvt. Ltd.

Dr Arun Patokar

CEO

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 13:45:22 +05'30'

CIN – U40108CT2003SGC015820 GSTIN :- 22AADCC5773E1ZX

CHHATTISGARH STATE POWER TRANSMISSION CO. LTD.

(A GOVT. OF CHHATTISGARH UNDERTAKING)

CSPTCL

O/O EXECUTIVE ENGINEER, SUBSTATION DIVISION BHILAI

BHILAI-3, DISTT. – DURG, CHHATTISGARH, PIN NO. 490021

WEBSITE:- WWW.CSPC.CO.IN, E-MAIL- EESSTRANS.BHILAI@CSPC.CO.IN, PHONE :– 0788 – 2281283, FAX :- 0788 – 2281283

NO. 10-72/BHL/ 1153 BHILAI. DTD: 12/09/23

CERTIFICATE

THIS IS TO CERTIFY THAT MR./MISS VAIBHAV LAKSHMI DUBEY STUDENT OF **CHRISTIAN COLLEGE OF ENGINEERING & TECHNOLOGY, BHILAI** HAS SUCCESSFULLY COMPLETED HIS/HER VOCATIONAL TRAININGS ON **"220/132/33 KV SUBSTATION EQUIPMENT'S"** IN ACCORDANCE TO ORDER OF **O/O ED (HR) CSPTCL RAIPUR ORDER NO. 01-01/ORDER/AM-II/3973, RAIPUR DTD. 31.07.2023** FROM 01.08.2023 TO 31.08.2023 **SUB-STATION DIVISION, CHHATTISGARH STATE POWER TRANSMISSION CO. LTD. BHILAI-3.**

WE WISH HER A GREAT SUCCESS IN PROFESSIONAL JOURNEY.

Executive Engineer
S/S Dn. CSPTCL Bhilai
EXECUTIVE ENGINEER
SUB-STATION DN. CSPTRANS.CL BHILAI

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 13:47:30 +05'30'

Mobile : +917000430754

" R.S "

SWASTI ENGINEERING WORKS
Machining ,Electrical, Fabrication & Job Works
(Indraprast Nagar Industrial Estate Bhilai (C.G)

Ref No . SW / EW / 2023005

Date . 30 / 08 / 2023

CERTIFICATE OF VOCATIONAL TRAINING

This is to certify that **Mr. Sahil Soni** S/o **Shri Sohan Lal Soni** pursuing (6 Sem.) , his Electrical Engineering of Christian College of Engg. & Technology Kailash Nagar I.E Bhilai ,successfully undergone the Vocational training in Project Base Training Electrical Works Control Department of our Company form 15th July 2023 to 29th Aug. 2023 (45 days Training)

During his nature we have found him hard working and sincere.

We wish him all the success in his future assignments.

For SWASTI ENGG. WORKS Pvt. Ltd.

(Edaris)
DY. GENERAL MANAGER (WORKS)

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 13:49:43 +05'30'

Mobile : +917000430754

" R.S "

SWASTI ENGINEERING WORKS
Machining ,Electrical, Fabrication & Job Works
(Indraprast Nagar Industrial Estate Bhilai (C.G)

Ref No . SW / EW / 2022005

Date . 30 / 08 / 2023

CERTIFICATE OF VOCATIONAL TRAINING

This is to certify that **Mr. Harish Kumar** S/o **Shri Rupesh Kumar** pursuing (6 Sem.) , his B. Tech in Electrical Engineering from Christian College of Eng. & Technology Kailash Nagar I.E Bhilai ,successfully undergone the vocational training in Project Base Training Electrical Works Control Department of our Company form 15th July 2023 to 29th Aug. 2023 (45 days Training)

During his nature we have found him hard working and sincere.

We wish him all the success in his future assignments.

For SWASTI ENGG. WORKS Pvt. Ltd.

(Edaris)
DY. GENERAL MANAGER (WORKS)

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 13:51:52 +05'30'

Mobile : +917000430754

" R.S "

SWASTI ENGINEERING WORKS
Machining ,Electrical, Fabrication & Job Works
(Indraprast Nagar Industrial Estate Bhilai (C.G)

Ref No . SW / EW / 2023005

Date . 30 / 08 / 2023

CERTIFICATE OF VOCATIONAL TRAINING

This is to certify that **Mr. Tribhuwan Sahu** S/o **Shri Narayan Sahu** pursuing (6 Sem.) , his Electrical Engineering of Christian College of Engg. & Technology Kailash Nagar I.E Bhilai ,successfully undergone the Vocational training in Project Base Training Electrical Works Control Department of our Company form 15th July 2023 to 29th Aug. 2023 (45 days Training)

During his nature we have found him hard working and sincere.

We wish him all the success in his future assignments.

For SWASTI ENGG. WORKS Pvt. Ltd.

(Edaris)
DY. GENERAL MANAGER (WORKS)

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 13:54:50 +05'30'

Mobile : +917000430754

" R.S "

SWASTI ENGINEERING WORKS
Machining ,Electrical, Fabrication & Job Works
(Indraprast Nagar Industrial Estate Bhilai (C.G)

Ref No . SW / EW / 2022006

Date . 30 / 08 / 2023

CERTIFICATE OF VOCATIONAL TRAINING

This is to certify that **Mr. Prem Kumar Yadav** S/o **Shri Hemsagar Yadav** pursuing (6 Sem.) , his B. Tech in Electrical Engineering from Christian College of Eng. & Technology Kailash Nagar I.E Bhilai ,successfully undergone the vocational training in Project Base Training Electrical Works Control Department of our Company form 15th July 2023 to 29th Aug. 2023 (45 days Training)

During his nature we have found him hard working and sincere.

We wish him all the success in his future assignments.

For SWASTI ENGG. WORKS Pvt. Ltd.

(Edaris)
DY. GENERAL MANAGER (WORKS)

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 13:57:06 +05'30'

RUKMANI ELECTRICAL & COMPONENTS PRIVATE LIMITED

Manufacturers Fabricators & Galvanizers :
- GI / ALU / SS Cable Trays / Ducts & Accessories
- GI Transmission, Telecommunication Towers,
- Sub -Station Structures & Line Material Structures
- GI Earthing, Flats / Strips & Earthing Electodes
- Gratings & Other Fabrication Job as per Drawing & Specification

NABCB QM 038 An ISO : 9001:2008 Certified

Ref No. RECPL/2023/09 **Date:13/08/2023**

CERTIFICATE

This is certify that Mr. **Vishnu ram** seventh semester student of B.Tech (Electrical engineering) of **C.C.E.T. Bhilai** collage /institute has undergone project base Training from **17/07/2023 to 12/08/2023** project **Report on failure analysis of AC motor's** Complete.
His Performance during the training period has been **Excellent**

RUKMANI ELECTRICAL & COMPONENTS PVT. LTD. Raipur

Raipur ,
Dated 13/08/2023

Vyas Narayan

Correspondence Address : 11 - A, MAHARSHI DEBENDRA ROAD, 1ST FLOOR, ROOM No.104, KOLKATA - 700007 (W.B)
PHONE : (033) 2274 8472 / 2274 0886, FAX : (033) 2659 0251, E-MAIL : rukmanimva@yahoo.co.in, WEBSITE : www.rukmani.net.in

Works & Registered Office : (UNIT NO.1), VILLAGE - KHARIAL, NEAR MOTHER DAIRY, GATE NO.3, P.O : DANKUNI COAL COMPLEX - 712 310.
DIST. HOOGHLY (W.B), PHONE : (033) 2659 3118, FAX : (033) 2659 0251, E-MAIL : maruthikabra@gmail.com, maruthi@rukmani.net.in

Works : (UNIT NO.2), URLA INDUSTRIAL AREA, URLA SARORA ROAD, (NEAR CSEB SUB. STATION, URLA), RAIPUR - 493 221 (C.G)
PHONE : (0771) 3250889, FAX : (0771) 232 2092, E-MAIL : sushilkabra123@yahoo.co.in CIN - U31901WB1995PTC074797

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 13:59:20 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

CERTIFICATE
OF INTERNSHIP

THE FOLLOWING AWARD IS GIVEN TO

Amit Sahu

For his/her outstanding completion of the internship program at Redeem Industries, IDA, Rampur, Warangal, Telangana from 16th August to 31st August 2023.

Redeem from the plastic pollution
Bio-Degradable Bags

Mr. P Arun Kumar
Manager

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:02:30 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

CERTIFICATE
OF INTERNSHIP

THE FOLLOWING AWARD IS GIVEN TO

Poonam

For his/her outstanding completion of the internship program at Redeem Industries, IDA, Rampur, Warangal, Telangana from 16th August to 31st August 2023.

Redeem from the plastic pollution
Bio-Degradable Bags

Mr. P Arun Kumar
Manager

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:04:53 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

CERTIFICATE
OF INTERNSHIP

THE FOLLOWING AWARD IS GIVEN TO

Sneha Motwani

For his/her outstanding completion of the internship program at Redeem Industries, IDA, Rampur, Warangal, Telangana from 16th August to 31st August 2023.

Redeem from the plastic pollution
Bio-Degradable Bags

Mr. P Arun Kumar
Manager

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:07:11 +05'30'

CERTIFICATE
OF INTERNSHIP

THE FOLLOWING AWARD IS GIVEN TO

D.John Victor

For his/her outstanding completion of the internship program at Redeem Industries, IDA, Rampur, Warangal, Telangana from 10th July to 8th August 2023.

Redeem from the plastic pollution
Bio-Degradable Bags

Mr. P Arun Kumar
Manager

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:09:41 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

CERTIFICATE
OF INTERNSHIP

THE FOLLOWING AWARD IS GIVEN TO

Mayur Yadav

For his/her outstanding completion of the internship program at Redeem Industries, IDA, Rampur, Warangal, Telangana from 10th July to 8th August 2023.

Redeem from the plastic pollution
Bio-Degradable Bags

Mr. P Arun Kumar
Manager

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:11:58 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

CERTIFICATE
OF INTERNSHIP

THE FOLLOWING AWARD IS GIVEN TO

Shivam Prasad

For his/her outstanding completion of the internship program at Redeem Industries, IDA, Rampur, Warangal, Telangana from 10th July to 8th August 2023.

Redeem from the plastic pollution
Bio-Degradable Bags

Mr. P Arun Kumar
Manager

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:14:22 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:15:57 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

Mobile : +917000430754

" R.S "

SWASTI ENGINEERING WORKS
Machining ,Electrical, Fabrication & Job Works
(Indraprast Nagar Industrial Estate Bhilai (C.G)

Ref No . SW / EW / 2023021

Date . 25 / 08 / 2023

CERTIFICATE OF INTERNSHIP

This is to certify that **Mr.** Shreyansh **Ekka** S/o **Shri Arun Ekka** pursuing (5 Sem.) ,his B. Tech in Mechanical Engineering from Christian College of Engg. & Technology Kailash Nagar I.E Bhilai ,successfully undergone the Internship Program in Mechanical Works Control Department of our Company form 10th Aug. 2023 to 25th Aug. 2023. (15 days Programs)

During his nature we have found him hard working and sincere.

We wish him all the success in his future assignments.

For SWASTI ENGG. WORKS Pvt. Ltd.

(Edaris)
DY. GENERAL MANAGER (WORKS)

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:16:58 +05'30'

Mobile : +917000430754

" R.S "

SWASTI ENGINEERING WORKS
Machining ,Electrical, Fabrication & Job Works
(Indraprast Nagar Industrial Estate Bhilai (C.G)

Ref No . SW / EW / 2023022

Date . 25 / 08 / 2023

CERTIFICATE OF INTERNSHIP

This is to certify that **Mr. Atul Hirwani** S/o **Shri Clemence hirwani** pursuing (5 Sem.) , his B. Tech in Mechanical Engineering from Christian College of Engg. & Technology Kailash Nagar I.E Bhilai ,successfully undergone the Internship Program in Mechanical Works Control Department of our Company form 10th Aug. 2023 to 25th Aug. 2023. (15 days Programs)

During his nature we have found him hard working and sincere.

We wish him all the success in his future assignments.

For SWASTI ENGG. WORKS Pvt. Ltd.

(Edaris)
DY. GENERAL MANAGER (WORKS)

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:17:26 +05'30'

Mobile : +917000430754

" R.S "

SWASTI ENGINEERING WORKS
Machining ,Electrical, Fabrication & Job Works
(Indraprast Nagar Industrial Estate Bhilai (C.G)

Ref No . SW / EW / 2023023 Date . 25 / 08 / 2023

CERTIFICATE OF INTERNSHIP

This is to certify that **Mr. Bhupendra Kumar Sen** S/o **Shri Uttam Sen** pursuing (5 Sem.) , his B. Tech in Mechanical Engineering from Christian College of Engg. & Technology Kailash Nagar I.E Bhilai ,successfully undergone the Internship Program in Mechanical Works Control Department of our Company form 10th Aug. 2023 to 25th Aug. 2023. (15 days Programs)

During his nature we have found him hard working and sincere.

We wish him all the success in his future assignments.

For SWASTI ENGG. WORKS Pvt. Ltd.

(Edaris)
DY. GENERAL MANAGER (WORKS)

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:17:47 +05'30'

Mobile : +917000430754

" R.S "

SWASTI ENGINEERING WORKS
Machining ,Electrical, Fabrication & Job Works
(Indraprast Nagar Industrial Estate Bhilai (C.G)

Ref No . SW / EW / 2023024

Date . 25 / 08 / 2023

CERTIFICATE OF INTERNSHIP

This is to certify that **Mr. Dinesh Kumar Yadav** S/o **Shri Hemsagar Yadav** pursuing (5 Sem.) , his B. Tech in Mechanical Engineering from Christian College of Engg. & Technology Kailash Nagar I.E Bhilai ,successfully undergone the Internship Program in Mechanical Works Control Department of our Company form 10th Aug. 2023 to 25th Aug. 2023. (15 days Programs)

During his nature we have found him hard working and sincere.

We wish him all the success in his future assignments.

For SWASTI ENGG. WORKS Pvt. Ltd.

(Edaris)
DY. GENERAL MANAGER (WORKS)

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:18:08 +05'30'

सेल SAIL
भिलाई इस्पात संयंत्र
BHILAI STEEL PLANT

मानव संसाधन विकास विभाग
HUMAN RESOURCES DEVELOPMENT DEPARTMENT

प्रमाणपत्र
CERTIFICATE

पंजीयन क्र.
Regn. No. P-23/9014

प्रमाणित किया जाता है कि श्री / कुमारी
This is to certify that Shri / Ku. Jaisleen Sahota

सेमेस्टर विद्यार्थी
Seventh Sem., student of B.Tech. of C.C.E.T., Bhilai. कालेज / संस्थान College / Institute
(Computer Science)

ने अवकाश कालीन प्रशिक्षु के रूप में दिनांक से तक प्रशिक्षण प्राप्त किया ।
has undergone project based training from 21/08/2023 to 16/09/2023

प्रोजेक्ट
Project Report on "Employee Login App."

इस अवधि में उनका कार्य निष्पादन रहा ।
His / her performance during the training period has been Excellent

भिलाई, दिनांक
Bhilai, Dated 16/09/2023

प्रभारी (प्रशिक्षण)
Incharge (Training)

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:18:32 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

Date : 20 September 2023

LOGIXHUNT

Certificate of Completion

This is to certify that **Mr Manash Dewangan** has completed his Vocational Training in **Front-End Web Designing** with **Logixhunt** from **August 2023** to **September 2023** with great enthusiasm and hard work. We believe that his hard work, dedication and enthusiasm will be a great asset to his career going forward. We wish him all the best for his future endeavours.

Co-ordinator
Mr. Harsh Agrawal
Design Team Lead, Logixhunt

LOGIXHUNT BHILAI ISO 9001

Co-ordinator
Mr. Pramod Shukla
C.E.O. & Founder, Logixhunt

Head Office : Plot No-03, Maitri Kunj, Risal, Bhilai, Chhattisgarh (490006)
Branch Office : 3rd Floor, Brij Tower, Sunadar Nagar, Raipur, Chhattisgarh(492013)

HTTPS://WWW.LOGIXHUNT.COM

ISO 9001:2015 CERTIFIED

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:19:00 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

CERTIFICATE
OF EXCELLENCE

THIS CERTIFICATE IS AWARDED TO

SCALER Topics

Preeti Jangade

In recognition of the completion of the Vocational Training : **Python Course for Beginners With Certification : Mastering the Essentials**

Following are the the learning items, which are covered in this Vocational Training :

121 Video Tutorials 16 Modules 10 Challenges

Start Date : 15.07.2023
End Date : 15.08.2023

Anshuman Singh
Co-founder **SCALER**

CERTIFICATE OF EXCELLENCE BY SCALER

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:19:57 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:20:33 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:20:58 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

ॐ जय श्री कृष्णा ॐ

Subject to Durg Jurisdiction

PARAMOUNT Psales
AN ISO 9001-2015 COMPANY

CERTIFIED CPRI COMPANY
C.P.R.I. APPROVED

PARAMOUNT SALES
Industrial Electrical & Electronics Solutions
PLOT NO - 99F, INDUSTRIAL ESTATE, BHILAI, (C.G.)
PHONE NO: - 4038132, MOBILE - 94252-92102
E-mail - psalesbhilai@gmail.com,
Web – www.paramountbhilai.com

CPRI APPROVED COMPANY :- SHORT CKT CAPACITY 65KA FOR 1 SEC AS PER IS 8623-1 & IP65 PROTECTION AS PER IS 13947-1
GSTIN NO. - 22ALLPP2013Q1ZY | A MSME UNIT - PANEL MANUFATURING SINCE 2004 | MSME UAM NO – CG05B0006814

REF. NO. :- PS/23-24/202/R1
DATE :- 18/09/2023

CERTIFICATE OF TRAINING

TO WHOM SO EVER IT MAY CONCERN

THIS IS TO CERIFY THAT **MR. HIMANSHU SHARMA,** S/O **VISHWAMBHAR NATH SHARMA** HE IS STUDENT OF (5 SEM.) **B. TECH. IN ELECTRICAL ENGINEERING** FROM **CHRISTIAN COLLEGE OF ENGINEERING & TECHNOLOGY** KAILASH NAGAR I E BHILAI. HE IS SUCCESSFULLY UNDERGONE HIS INDUSTRIAL TRAINING PROGRAM ELECTRICTRICAL WORK DEPARTMENT AT OUR ORGANIZATION FOR 3 WEEKS FROM 22/08/2023 TO 12/09/2023.

DURING HIS TRAINING WE HAVE FOUND HIM HARD WORKING AND SINCERE.

WE WISH HIM GOOD LUCK FOR HIS BRIGHT AND PROSPEROUS FUTURE.

FOR PARAMOUNT SALES

18/09/2023

RAVIKANT SINHA
MANAGER

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:27:32 +05'30'

PARAMOUNT SALES
Industrial Electrical & Electronics Solutions

: Manufacturer of :
Power Control Center, Motor Control Center, Power Distribution Board, APFC Panel, MLDB, SLDB, DRIVE Panel, Local Control Station, Meter Boxes, Metering Panels, Control Desk, Junction Boxes And Lighting DBs, "EASY GROUND" Chemical Earthing Electrodes.
: SERVICING JOBS :
RETROFITTING OF ANY ACBs & SFUs & PANEL MODIFICATIONS, ACB SERVICING AND ANY TYPE OF ELECTRICAL SOLUTIONS ETC.
: PRODUCTS DEAL WITH :

Supporting MAKE IN INDIA Vision

L&T SWITCHGEAR SAFE & SURE MAKING PANEL WITH L&T SWITCHGEARS | Speed-O-Controls Pvt. Ltd. | DELTA DELTA ELECTRONICS, INC. | Autonics Sensors & Controllers | legrand LIVE THE ADVANTAGE | ISO 9001:2015 REG.NO – 1051/QMS/0617

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

छत्तीसगढ़ स्टेट पावर डिस्ट्रीब्यूशन कम्पनी लिमिटेड
(छत्तीसगढ़ शासन का एक उपकम)
CSPDCL कार्या0 कार्यपालन यंत्री (सं./सं.) संभाग बेमेतरा
CIN: U40108CT2003SG015822
Website: www.cspdcl.co.in Email ID : eeonm.bemetera@cspc.co.in

कमांक / 10–33 / स्था0 / 2434 बेमेतरा, दिनांक 14 SEP 2023

// प्रमाण पत्र //

प्रमाणित किया जाता है कि कु./हरभजन बघेल पिता श्री नरेश बघेल ने कंपनी के आदेश कमांक No/CCT/2023/252-Dt.14.08.2023 के तहत् व्यवसायिक प्रशिक्षण (VOCATIONAL TRAINING) दिनांक 21.08.2023 से 10.09.2023 तक इस संभाग में पूर्ण किया ।

कार्यपालन यंत्री (संचा/संधा)संभाग
छ.स्टेट पॉ.डि.कं.लिमि.बेमेतरा

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:27:56 +05'30'

POWER GENERATION TRAINING INSTITUTE

CHHATTISGARH STATE POWER, GENERATION COMPANY LIMITED

KORBA EAST

(A Government of Chhattisgarh Undertaking)
(A Successor Company of CSEB)

सी एस पी जी सी एल CSPGCL

सी एस पी जी सी एल CSPGCL

CERTIFICATE

SL.No. 702

This is to Certify that Shri/Ku RAGINI RATHORE Son/Daughter of Shri CHHAT LAL RATHORE Student of C.C.E.T.-BHILAI (CG.) BRANCH- ELECT. ENGG. has completed the Vocational Training w.e.f. Date 29.08.2023 to 27.09.2023. Total Present 30 Days (THIRTY DAYS) 04 WEEKS. Days at our Thermal Power Station Successfully.

Date: 29.09.2023
PLACE : KORBA

CHIEF ENGINEER (TRG)
PGTI, CSPGCL, KORBA EAST

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:28:21 +05'30'

"R.S"

Mobile : +917000430754

SWASTI ENGINEERING WORKS

Machining ,Electrical, Fabrication & Job Works

(Indraprast Nagar Industrial Estate Bhilai (C.G)

Ref No . SW / EW / 2023013

Date . 22 / 09 / 2023

CERTIFICATE OF VOCATIONAL TRAINING

This is to certify that **Miss. Nikita Sahu** S/o **Shri Ashok Sahu** pursuing (4 Sem.) , her B. Tech in Electrical Engineering from Christian College of Engineering & Technology Kailash Nagar I.E Bhilai ,successfully undergone the vocational training in Project Base Training Electrical Works Control Department of our Company form 21th Aug. 2023 to 21th Sep. 2023 (30 days Training)

During her nature, we have found that she was very hardworking and sincere.

We wish that she will achieve all the success in her future assignments.

For SWASTI ENGG. WORKS Pvt. Ltd.

(Edaris)
DY. GENERAL MANAGER (WORKS)

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:28:56 +05'30'

S K Associates Bhilai

INTERNSHIP CERTIFICATE

This is to certify that

SATYAM BHARTI

From

CCET Bhilai

Has successfully completed a 1-month internship program in

Installation of Substation

From 29th Aug to 27th Sept 2023

A K Singh

Authorized Signatory

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:29:22 +05'30'

S K Associates Bhilai

INTERNSHIP CERTIFICATE

This is to certify that

SHIWANI SONWANI

From

CCET Bhilai

Has successfully completed a 1-month internship program in

Installation of Substation

From 29th Aug to 27th Sept 2023

A K Singh

Authorized Signatory

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:29:45 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

S K Associates Bhilai

INTERNSHIP CERTIFICATE

This is to certify that

BHARTI JENA

From

CCET Bhilai

Has successfully completed a 1-month internship program in

Installation of Substation

From 29th Aug to 27th Sept 2023

A K Singh
Authorized Signatory

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:30:08 +05'30'

S K Associates Bhilai

INTERNSHIP CERTIFICATE

This is to certify that

TARUN KUMAR

From

CCET Bhilai

Has successfully completed a 1-month internship program in

Installation of Substation

From 29th Aug to 27th Sept 2023

A K Singh
Authorized Signatory

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:30:29 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

S K Associates Bhilai

INTERNSHIP CERTIFICATE

This is to certify that

VIVEK

From

CCET Bhilai

Has successfully completed a 1-month internship program in

Installation of Substation

From 10th July to 8th Aug 2023

A K Singh

Authorized Signatory

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:30:49 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

S K Associates Bhilai

INTERNSHIP CERTIFICATE

This is to certify that

KAMLESHWAR

From

CCET Bhilai

Has successfully completed a 1-month internship program in

Installation of Substation

From 10th July to 8th Aug 2023

A K Singh
Authorized Signatory

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:31:11 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

S K Associates Bhilai

INTERNSHIP CERTIFICATE

This is to certify that

RAKESH KUMAR

From

CCET Bhilai

Has successfully completed a 1-month internship program in

Installation of Substation

From 10th July to 8th Aug 2023

A K Singh
Authorized Signatory

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:31:38 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

S K Associates Bhilai

INTERNSHIP CERTIFICATE

This is to certify that

DEEPAK KUMAR

From

CCET Bhilai

Has successfully completed a 1-month internship program in

Installation of Substation

From 10th July to 8th Aug 2023

A K Singh
Authorized Signatory

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:31:57 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

CERTIFICATE OF EXCELLENCE

THIS CERTIFICATE IS AWARDED TO

SCALER Topics

Aryan Gupta

In recognition of the completion of the Vocational Training : **Data Science Course - Mastering the Fundamentals**

Following are the learning items, which are covered in this Vocational Training

47 Video Tutorials 7 Modules 7 Challenges

Start Date : 01.09.2023
End Date : 27.09.2023

Anshuman Singh
Co-founder SCALER

CERTIFICATE OF EXCELLENCE BY SCALER

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:32:20 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

Great Learning

CERTIFICATE OF COMPLETION

Presented to

Amit Kumar

For successfully completing a free online course

Python Fundamentals for Beginners

Provided by

Great Learning Academy

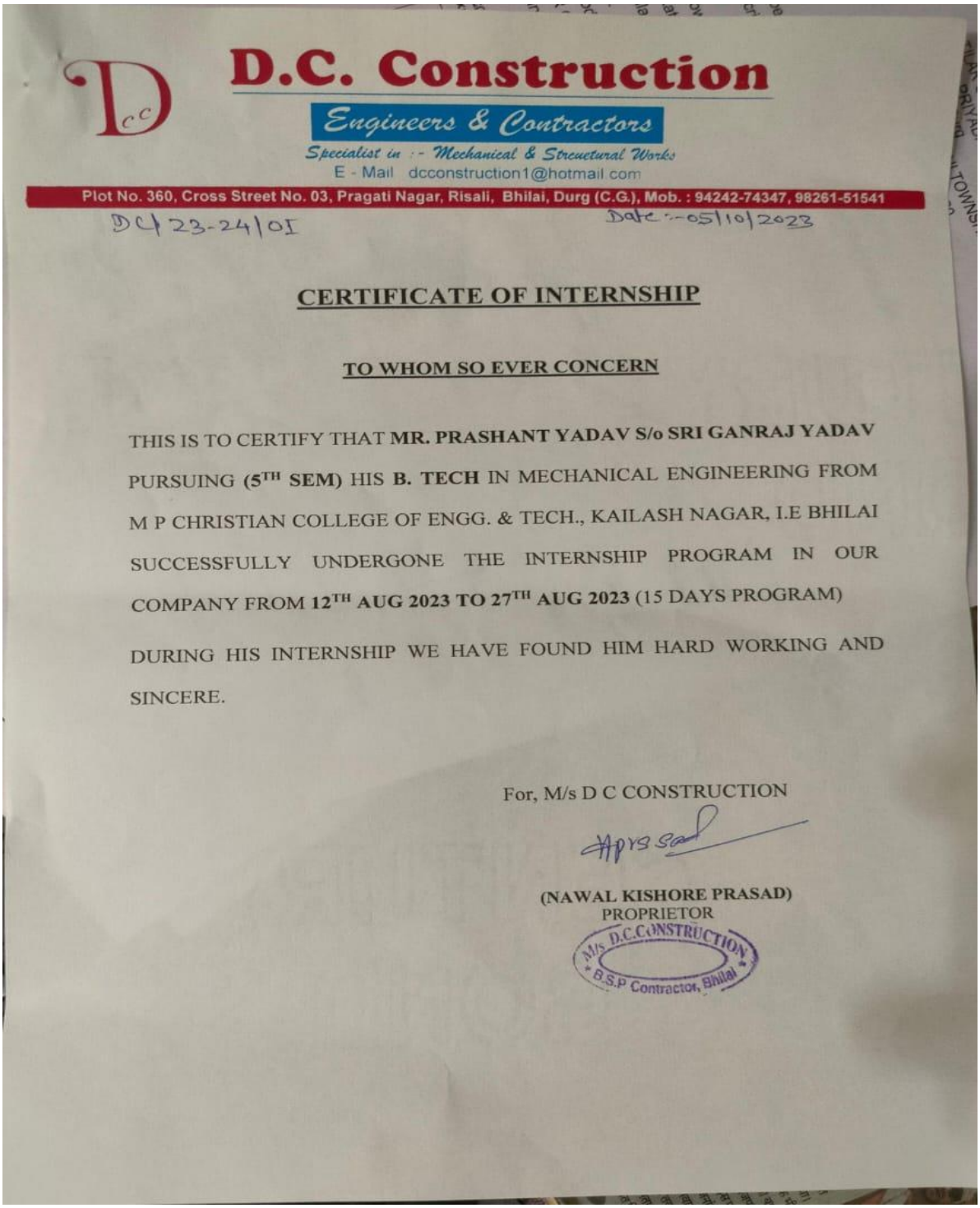
(On July 2023)

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:32:43 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships



D.C. Construction

Engineers & Contractors

Specialist in :- Mechanical & Structural Works

E - Mail dcconstruction1@hotmail.com

Plot No. 360, Cross Street No. 03, Pragati Nagar, Risali, Bhilai, Durg (C.G.), Mob. : 94242-74347, 98261-51541

DC/23-24/01 Date :- 05/10/2023

CERTIFICATE OF INTERNSHIP

TO WHOM SO EVER CONCERN

THIS IS TO CERTIFY THAT **MR. PRASHANT YADAV S/o SRI GANRAJ YADAV** PURSUING **(5TH SEM)** HIS **B. TECH** IN MECHANICAL ENGINEERING FROM M P CHRISTIAN COLLEGE OF ENGG. & TECH., KAILASH NAGAR, I.E BHILAI SUCCESSFULLY UNDERGONE THE INTERNSHIP PROGRAM IN OUR COMPANY FROM **12TH AUG 2023 TO 27TH AUG 2023** (15 DAYS PROGRAM)

DURING HIS INTERNSHIP WE HAVE FOUND HIM HARD WORKING AND SINCERE.

For, M/s D C CONSTRUCTION

(NAWAL KISHORE PRASAD)
PROPRIETOR

M/s D.C.CONSTRUCTION
B.S.P Contractor, Bhilai

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:33:09 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

AUDITTECH

CERTIFICATE

This is to Certify that **Mr. Dewanshu Ghatode** S/o **Shri Sharad Ghatode** pursuing (5th Sem.), B. Tech in Electrical Engineering from Christian College of Engineering & Technology Kailash Nagar I.E Bhilai, Successfully undergone the vocational training in Determining Efficiency & Losses in Power & Distribution Transformer under Energy Audit Project of our company from 21st Aug 2023 to 21st Sep 2023 (Total Days - 30).

During Project, We have found that he is sincere and active towards his work.

We wish him all the best for future endeavors.

For, Audittech Industrial Services Private Limited

Audittech Industrial Services Pvt. Ltd.

Authorized Signatory

Audittech Industrial Services Pvt. Ltd.
Opps. Mahavir Bhawan, Tikarapara, Balod(C.G.)-491226
Emailid–mahaveerbbl@gmail.com;aispl.rpr@gmail.com Contactno.-7999575489/8962369293

ISO CERTIFIED COMPANY

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:33:30 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

AUDITTECH

CERTIFICATE

This is to Certify that **Mr. Thanesh Gaur** S/o **Shri Hirday Ram Gaur** pursuing (5th Sem.), B. Tech in Electrical Engineering from Christian College of Engineering & Technology Kailash Nagar I.E Bhilai, Successfully undergone the vocational training in Determining Efficiency & Losses in Power & Distribution Transformer under Energy Audit Project of our company from 21st Aug 2023 to 21st Sep 2023 (Total Days - 30).

During Project, We have found that he is sincere and active towards his work.

We wish him all the best for future endeavors.

For, Audittech Industrial Services Private Limited

Audittech Industrial Services Pvt. Ltd.

Authorized Signatory

Audittech Industrial Services Pvt. Ltd.
Opps. Mahavir Bhawan, Tikarapara, Balod(C.G.)-491226
Emailid–mahaveerbbl@gmail.com,aispl.rpr@gmail.com Contactno.-7999575489/8962369293

ISO 9001:2015 CERTIFIED COMPANY

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:33:51 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

ID : LGX100923 Date : 20 September 2023

LOGIXHUNT

Certificate of Completion

This is to certify that **Miss Alisha Parvin** has completed her Vocational Training in **Front-End Web Designing** with **Logixhunt** from **August 2023** to **September 2023** with great enthusiasm and hard work. We believe that her hard work, dedication and enthusiasm will be a great asset to his career going forward. We wish her all the best for her future endeavours.

Co-ordinator
Mr. Harsh Agrawal
Design Team Lead, Logixhunt

LOGIXHUNT BHILAI ISO 9001

Co-ordinator
Mr. Pramod Shukla
C.E.O. & Founder, Logixhunt

Head Office : Plot No-03, Maitri Kunj, Risali, Bhilai, Chhattisgarh (490006)
Branch Office : 3rd Floor, Brij Tower, Sunador Nagar, Raipur, Chhattisgarh(492013)

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:34:27 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

ID : LGX110923 Date : 20 September 2023

LOGIXHUNT

Certificate of Completion

This is to certify that **Miss Kirti Singh** has completed her Vocational Training in Front-End Web Designing with **Logixhunt** from **August 2023** to **September 2023** with great enthusiasm and hard work. We believe that her hard work, dedication and enthusiasm will be a great asset to his career going forward. We wish her all the best for her future endeavours.

Co-ordinator
Mr. Harsh Agrawal
Design Team Lead, Logixhunt

LOGIXHUNT BHILAI ISO 9001

Co-ordinator
Mr. Pramod Shukla
C.E.O. & Founder, Logixhunt

Head Office : Plot No-03, Maitri Kunj, Risal, Bhilai, Chhattisgarh (490006)
Branch Office : 3rd Floor, Brij Tower, Sunadar Nagar, Raipur, Chhattisgarh(492013)

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:34:56 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

ID : LGX80923 Date : 20 September 2023

LOGIXHUNT

Certificate of Completion

This is to certify that **Mr Nitish Kumar Sharma** has completed her Vocational Training in **Front-End Web Designing** with **Logixhunt** from **August 2023** to **September 2023** with great enthusiasm and hard work. We believe that her hard work, dedication and enthusiasm will be a great asset to his career going forward. We wish her all the best for her future endeavours.

Co-ordinator
Mr. Harsh Agrawal
Design Team Lead, Logixhunt

LOGIXHUNT BHILAI ISO 9001

Co-ordinator
Mr. Pramod Shukla
C.E.O. & Founder, Logixhunt

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:35:34 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

DIPALI SOREN TUDU
Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:36:14 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

DIPALI SOREN TUDU

Digitally signed by DIPALI SOREN TUDU
Date: 2023.11.05 14:36:35 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

INTERNSHALA TRAININGS

Skill India
कौशल भारत - कुशल भारत

N·S·D·C

CERTIFICATE

This is to certify that

Ms./Mr. **APRATA SONA**

Son/Daughter of **ARAKSHIT SONA** Student ID **CAN_25560910**

has successfully completed the **WEB DEVELOPMENT** Course

with Grade **A** from **SCHOLIVERSE EDUCARE PRIVATE LIMITED**

Date of Issuance: 10th October 2023

Issued by

Certificate ID: 5879m4r1mt5rc05f

Sarvesh Madhu Agrawal
Founder & CEO
SCHOLIVERSE EDUCARE PRIVATE LIMITED

This is a System-generated Certificate. Assessment and Grading of the Candidate is provided/facilitated solely by the respective training provider based on its evaluation parameters.

DIPALI SOREN TUDU

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Date: 2023.11.05 14:36:56 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

INTERNSHALA TRAININGS

Certificate of Training

Somiya Kurian

from Christian college of engineering and technology, Bhilai has successfully completed an 8-week online training on **Web Development**. The training consisted of HTML, CSS, Bootstrap, DBMS, PHP, JS, React, and Final Project modules.
In the final assessment, Somiya scored 36% marks.
We wish Somiya all the best for future endeavours.

Sarvesh Agarwal
FOUNDER & CEO, INTERNSHALA

Date of certification: 2023-10-05 Certificate no. : 1rc117zckj6

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

DIPALI SOREN TUDU
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Date: 2023.11.05 14:37:16 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

INTERNSHALA TRAININGS

Certificate of Training

Shobhit Kumar

from Christian college of Engg. and Tech. has successfully completed an 8-week online training on **Web Development**. The training consisted of HTML, CSS, Bootstrap, DBMS, PHP, JS, React, and Final Project modules.

We wish Shobhit all the best for future endeavours.

Sarvesh Agarwal
FOUNDER & CEO, INTERNSHALA

Date of certification: 2023-09-19 Certificate no. : 82qtpgpgtfs

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

DIPALI SOREN TUDU

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Date: 2023.11.05 14:37:45 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

INTERNSHALA TRAININGS

Certificate of Training

Shivam Kumar

from Christian college of engineering and technology has successfully completed an 8-week online training on **Web Development**. The training consisted of HTML, CSS, Bootstrap, DBMS, PHP, JS, React, and Final Project modules.

In the final assessment, Shivam scored 81% marks.

We wish Shivam all the best for future endeavours.

Sarvesh Agarwal
FOUNDER & CEO, INTERNSHALA

Date of certification: 2023-09-23 Certificate no.: [illegible]

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

DIPALI SOREN TUDU

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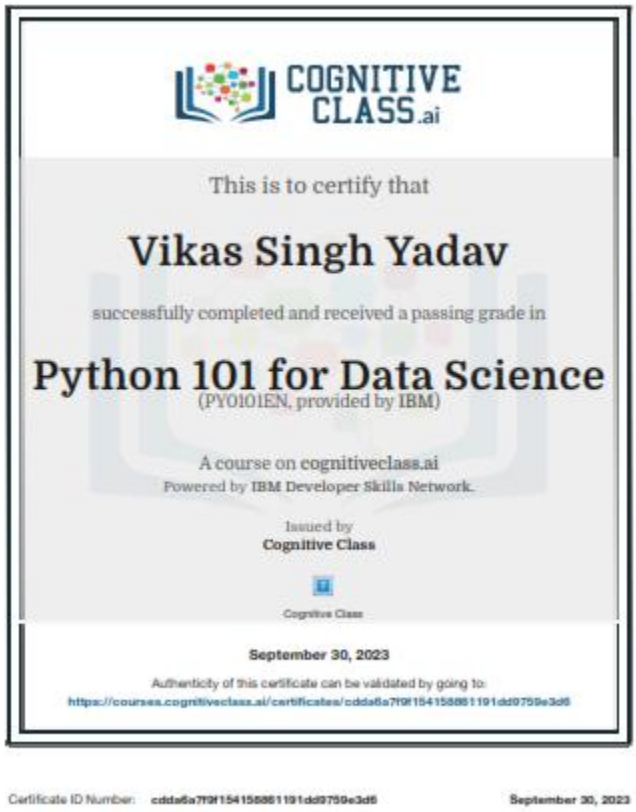
Date: 2023.11.05 14:38:04 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships



COGNITIVE CLASS.ai

This is to certify that

Vikas Singh Yadav

successfully completed and received a passing grade in

Python 101 for Data Science
(PY0101EN, provided by IBM)

A course on cognitiveclass.ai
Powered by IBM Developer Skills Network.

Issued by
Cognitive Class

Cognitive Class

September 30, 2023

Authenticity of this certificate can be validated by going to:
https://courses.cognitiveclass.ai/certificates/cdda6a7f9f154158861191dd9759e3d6

Certificate ID Number: cdda6a7f9f154158861191dd9759e3d6 September 30, 2023

DIPALI SOREN TUDU

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Date: 2023.11.05 14:38:31 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

greenbook
Media and Apps Pvt. Ltd.

INTERNSHIP CERTIFICATE

(PERIOD- 15 JULY 2023 TO 20 AUGUST 2023)

This is to certify that **Tarun Kumar Sinha** has completed our Internship Program in **Web Development** for an **E-commerce** Project. He has been awarded this with **A+** grade in the final evaluation.

ABHIJIT DUBEY
Director/Gen Manager

DIPALI SOREN TUDU

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Date: 2023.11.05 14:38:54 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

greenbook
Media and Apps Pvt. Ltd.

INTERNSHIP CERTIFICATE

(PERIOD- 15 JULY 2023 TO 20 AUGUST 2023)

This is to certify that **Karan Kumar Bisen** has completed our Internship Program in **Web Development** for an **E-commerce** Project. He has been awarded this with **A+** grade in the final evaluation.

ABHIJIT DUBEY
Director/Gen Manager

DIPALI SOREN TUDU

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Date: 2023.11.05 14:39:18 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

CERTIFICATE
OF EXCELLENCE

THIS CERTIFICATE IS AWARDED TO

SCALER Topics

Aayushi

In recognition of the completion of the Vocational Training : **Python Course for Beginners With Certification : Mastering the Essentials**

Following are the the learning items, which are covered in this Vocational Training :

121 Video Tutorials 16 Modules 10 Challenges

Start Date : 15.07.2023
End Date : 15.08.2023

Anshuman Singh
Co-founder SCALER

CERTIFICATE OF EXCELLENCE BY SCALER

DIPALI SOREN TUDU

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Date: 2023.11.05 14:39:50 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

DIPALI SOREN TUDU

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Date: 2023.11.05 14:40:13 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

DIPALI SOREN TUDU

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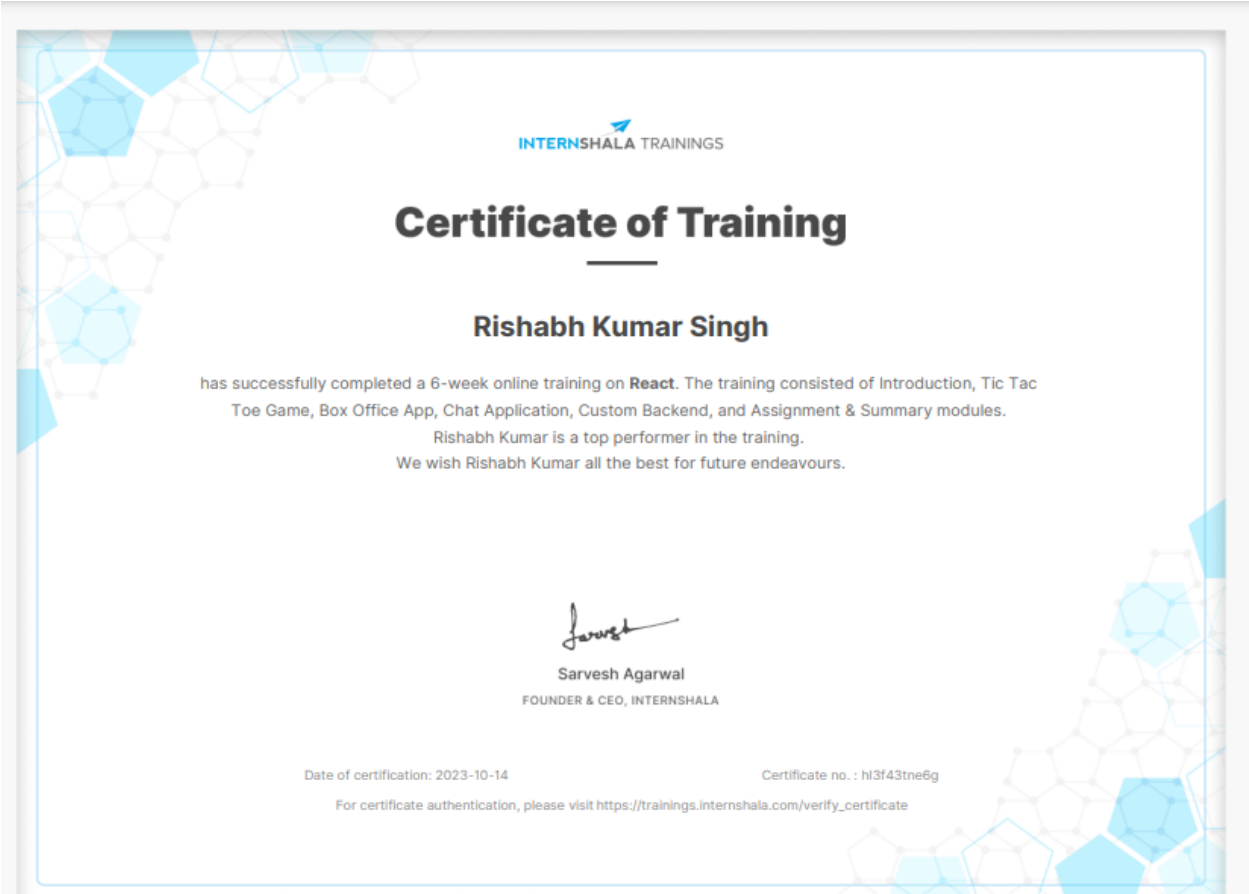
Date: 2023.11.05 14:40:36 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships



INTERNSHALA TRAININGS

Certificate of Training

Rishabh Kumar Singh

has successfully completed a 6-week online training on **React**. The training consisted of Introduction, Tic Tac Toe Game, Box Office App, Chat Application, Custom Backend, and Assignment & Summary modules.
Rishabh Kumar is a top performer in the training.
We wish Rishabh Kumar all the best for future endeavours.

Sarvesh Agarwal
FOUNDER & CEO, INTERNSHALA

Date of certification: 2023-10-14 Certificate no. : hl3f43tne6g

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DIPALI SOREN TUDU

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Date: 2023.11.05 14:40:59 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

udemy

Certificate no: UC-da7a6a7a-e049-4595-a68d-7c3801cf83c1
Certificate url: ude.my/UC-da7a6a7a-e049-4595-a68d-7c3801cf83c1
Reference Number: 0004

CERTIFICATE OF COMPLETION

The Complete 2023 Web Development Bootcamp

Instructors **Dr. Angela Yu**

Amit Sao

Date **Sept. 13, 2023**
Length **63 total hours**

DIPALI SOREN TUDU

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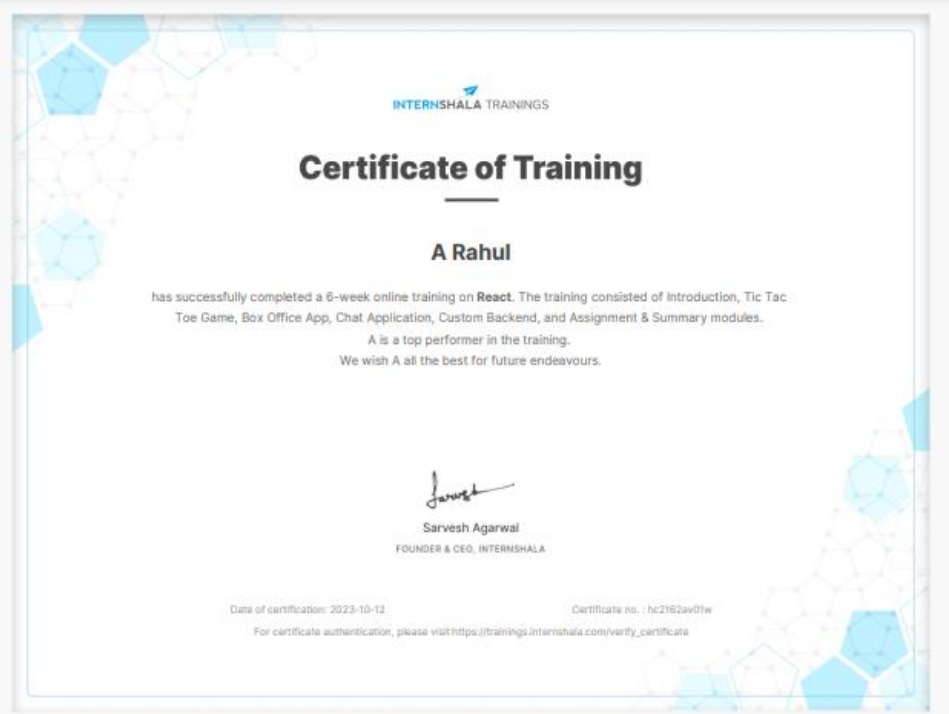
Date: 2023.11.05 14:41:37 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships



INTERNSHALA TRAININGS

Certificate of Training

A Rahul

has successfully completed a 6-week online training on **React**. The training consisted of Introduction, Tic Tac Toe Game, Box Office App, Chat Application, Custom Backend, and Assignment & Summary modules.
A is a top performer in the training.
We wish A all the best for future endeavours.

Sarvesh Agarwal
FOUNDER & CEO, INTERNSHALA

Date of certification: 2023-10-12 Certificate no. : hc2162av0fw
For certificate authentication, please visit https://trainings.internshala.com/verify_certificate

DIPALI SOREN TUDU

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Date: 2023.11.05 14:42:00 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

DIPALI SOREN TUDU
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Date: 2023.11.05 14:42:26 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships

INTERNSHALA TRAININGS

Certificate of Training

Priyanshu Kumar

has successfully completed a 4-week online training on **Internship & Job Preparation**. The training consisted of Getting Started with the Job Hunt, Building up your Gears, Going at the Front, and The Final Project modules.

We wish Priyanshu all the best for future endeavours.

Sarvesh Agarwal
FOUNDER & CEO, INTERNSHALA

Date of certification: 2023-08-08 Certificate no. : ahrz8pf4v6z

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

DIPALI SOREN TUDU

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Date: 2023.11.05 14:42:50 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships


Reg. No. DSVT232423

Digitalशाखा

Think - Innovate - Design

ISO 9001:2015 Certified Company

Certificate of Completion

This is to certify that

Mr. / Ms Sukhjeet Singh Hans

has successfully completed training on Full Stack Development

From 20 Aug 2023 To 20 Sep 2023

at Digitalshakha

issue Date : 22 - Sep - 2023

Seal

Digitalshakha


DECLARATION OF

COMPLETION

Saket Kumar

has successfully completed the online training

Data Science

This professional has demonstrated initiative and a commitment to deepening their skills and advancing their career. Well done!

04th Sep 2023

Certificate code : 4492994

Krishna Kumar

CEO, Simplilearn

SkillUP

DIPALI SOREN TUDU

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Date: 2023.11.05 14:43:12 +05'30'

Criterion 1

QnM 1.3.2 Project work/field work/ Internships