

**VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
AFFILIATED TO OSMANIA UNIVERSITY
IBRAHIMBAGH, HYDERABAD**

CERTIFICATE

This is to certify that the project report entitled
"**Fabrication and Analysis of Al319 and Al6061 Alloys
by Sand Casting**" is a bonafide record of a project
carried out by

P. Kaveendra	1602-20-736-077
T. Pavani	1602-20-736-090
E. Vikram	1602-20-736-325

in the Department of Mechanical Engineering, Vasavi
College of Engineering (Autonomous) (affiliated to
Osmania University), Hyderabad during the academic
year 2023-24 in partial fulfillment for the award of
Degree in Bachelor of Mechanical Engineering.



Mr. B. Sandeep
Assistant Professor
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Assistant Professor
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Dr T RAMAMOCHAN RAO
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**VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
AFFILIATED TO OSMANIA UNIVERSITY
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CERTIFICATE

This is to certify that the project report entitled "***Designing & Preparing Functional Document on Bearing Life Tools***" is a bonafide record of a project carried out by

Vuradi Dinesh - - - 1602-20-736-071

in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (affiliated to Osmania University), Hyderabad during the academic year 2023-24 in partial fulfillment for the award of Degree in Bachelor of Mechanical Engineering.



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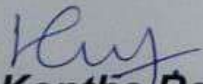
VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
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IBRAHIMBAGH, HYDERABAD

CERTIFICATE

This is to certify that the project report entitled "**DESIGN OF WATER PUMPING MECHANISM USING WIND ENERGY**" is a bonafide record of a project carried out by

O. Sai hanuk --- 1602-20-736-101
MD. Parvez --- 1602-20-736-085

in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (affiliated to Osmania University), Hyderabad during the academic year 2018-19 in partial fulfillment for the award of Degree in Bachelor of Mechanical Engineering.


Mr. J. Kantha Rao
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VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
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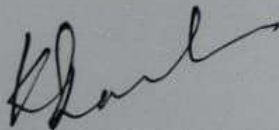
CERTIFICATE

This is to certify that the project report entitled
"Modeling and Manufacturing of Tools and Fixtures
on 5 Axis Vertical Machining Centers" is a bonafide
record of a project carried out by

Abhiram Ganti

- - - 1602-20-736-327

in the Department of Mechanical Engineering, Vasavi
College of Engineering (Autonomous) (affiliated to
Osmania University), Hyderabad during the academic
year 2023-24 in partial fulfillment for the award of
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Mr. K. Isaac Spurgeon

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Assistant Professor

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Dr T. RAMAMOCHAN RAO

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Dept. Of Mechanical Engg
Vasavi College of Engg
Ibrahimbagh, Hyderabad-501



Ref: TSAL/Internship/24-25/60

Date: 29-04-2024

TO WHOMSOEVER IT MAY CONCERN

Sub: Completion of Internship

This is to certify that Mr. Ganti Abhiram has successfully completed his Internship in Tooling Department at TATA Sikorsky Aerospace Limited, Hyderabad from 29-01-2024 to 29-04-2024.

We appreciate his valuable contribution and wish him all the very best in his future endeavors.

For TATA Sikorsky Aerospace Limited,


Authorized Signatory

TATA SIKORSKY AEROSPACE LIMITED
(formerly known as TARA Aerospace Systems Limited)

Sy No: 255 Adibatla (V) Ibrahimpatnam (M) Rangareddy (D) Telangana - 501 510
Registered Office : Hardware Park, Plot No.21, Sy No. 1/1, Imarat Kancha, Raviryala (V) Mahabubnagar (D) Telangana - 501 510
0 6644 8238 Fax 91 40 6644 8242 Email: email@tataadvancedsystems.com

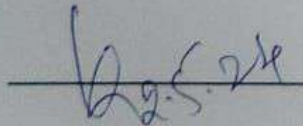
**VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
AFFILIATED TO OSMANIA UNIVERSITY
IBRAHIMBAGH, HYDERABAD**

CERTIFICATE

This is to certify that the project report entitled “**DESIGN AND ANALYSIS OF THE DRIVE SHAFT OF A FOUR WHEELER USING COMPOSITE MATERIALS**” is a bonafide record of a project carried out by

Bhumandla Rajitha - - - 1602-20-736-093
Gundoju Sai Anugna - - - 1602-20-736-096
Bojaraju Indu Sri - - - 1602-20-736-322

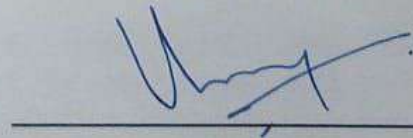
In the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (affiliated to Osmania University), Hyderabad during the academic year 2023-24 in partial fulfillment for the award of Degree in Bachelor of Mechanical Engineering.



Mr. S Sreekrishna

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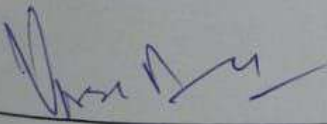
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CERTIFICATE

This is to certify that the project report entitled
**"EFFECT OF HIGH IMPACT LOADING ON THE
VARIATION OF MECHANICAL PROPERTIES OF METALS"**
is a bonafide record of a project carried out by

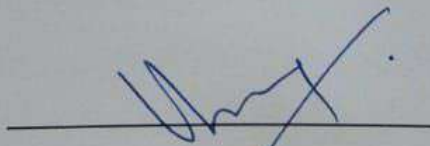
Kachirla. V. Siri - - - 1 602-20-736-329
G. Aravind - - - 1 602-20-736-333

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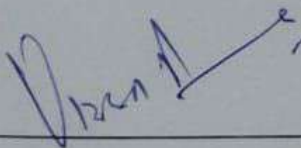
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CERTIFICATE

This is to certify that the project report entitled "**STRUCTURAL ANALYSIS of BLI ANTENNA**" is a bonafide record of a project carried out by

G. Charan Kumar Reddy	1602-20-736-069
Sai Siddardha Palakuri	1602-20-736-098
Kinjarapu Bhaskar Naidu	1602-20-736-323

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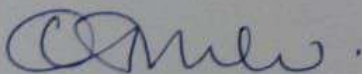
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CERTIFICATE

This is to certify that the project report entitled "*Design, Analysis, and Fabrication of Coanda effect Flying Saucer*" is a bonafide record of a project carried out by

Prasanna Laxmi Konam	1602-20-736-079
Meghana Kasula	1602-20-736-083
Mohammed Abdul Aziz	1602-20-736-084

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Mr. K. Srinavasa Rao

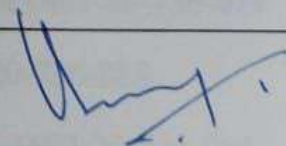
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VASAVI COLLEGE OF ENGINEERING

VASAVI COLLEGE OF ENGINEERING
(Private Un-aided Non-minority Autonomous Institution)
ACCREDITED BY NAAC WITH 'A++' GRADE
Affiliated to Osmania University and Approved by AICTE.
2023-2024

DEPARTMENT OF MECHANICAL ENGINEERING

CERTIFICATE

This is to certify that the project work entitled "Generative Design Of An Autonomous Payload Carrying Quadcopter In Fusion 360 With Ansys Workbench Analysis" is being submitted C. Shashank kumar (1602-20-736-331) in partial fulfillment of the requirement for the award of the degree of Bachelor of Technology in Mechanical Engineering, during the academic year 2023-2024.

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(Affiliated to Osmania University, approved by AICTE and accredited by NBA)



CERTIFICATE

This is to certify that the work in this dissertation entitled **“Power Generation Using Electromagnetic Suspension System”** submitted by **V.Akshay Kumar(1602-20-736-062)** , **S.Mukesh(1602-20-736-086)** and **M.Sai Charan (1602-20-736-100)** has been read and approved for meeting during part of the requirements and regulations governing the award the degree of **B.E.** in Mechanical Engineering during academic year 2024 in the Department of Mechanical Engineering, Vasavi College of Engineering.

The work done in this dissertation has not been submitted to any other University/Institute for the award of any degree or diploma

B.N. Manohar

Signature of the Supervisor
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DR.T.RAMA MOHAN RAO
Signature of the Head of the Dept
DR.T.RAMA MOHAN RAO
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Date: *03/05/2024*

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CERTIFICATE

This is to certify that the project report entitled "**ESTIMATION OF EFFICIENCY OF BOILER MEANT FOR POWER STATION**" is a Bonafede record of a project carried out by

D.G. Sai Koushik 1602-20-736-073

Varanasi Ramanath 1602-20-736-094

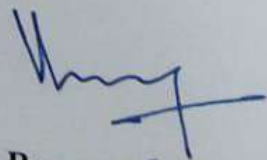
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This is to certify that the project report entitled "**Design and fabrication of four-wheel drive for acceleration and turning control by hand gesture**" is a bonafide record of a project carried out by

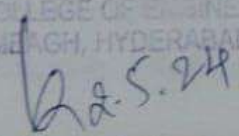
Chaitanya Krishna Goud --- 1602-20-736-068

Nasruddin Ghorri --- 1602-20-736-088

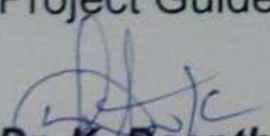
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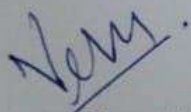
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IBRAHIMBAGH, HYDERABAD

CERTIFICATE

This is to certify that the project report entitled "**FABRICATION OF HYBRID MOTOR VEHICLE**" is a bonafide record of a project carried out by

Challa Dinesh	1602-20-736-070
Kura Prashanth Kumar	1602-20-736-326
Puttharaj Parameshwar	1602-20-736-330

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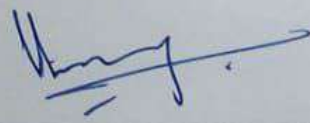
CERTIFICATE

This is to certify that the project report entitled "**DESIGN AND FABRICATION OF MODIFIED SCARA**" is a bonafide record of a project carried out by

P. Aashreeth Reddy	1602-20-736-061
K. Sai Teja	1602-20-736-099
E. Vikram	1602-20-736-318

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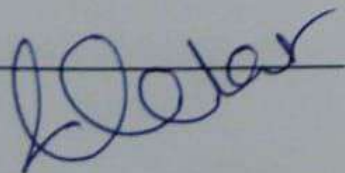
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CERTIFICATE

This is to certify that the project report entitled "
Evaluating the performance of diesel engine
with diesel-plastic fuel blend as an alternate fuel"
is a bonafide record of a project carried out by

G. L. Mahith Simha Reddy - - - 1602-20-736-078
P. Guna Sekhar Reddy - - - 1602-20-736-102
J. Pavani - - - 1602-20-736-321

in the Department of Mechanical Engineering, Vasavi
College of Engineering (Autonomous) (affiliated to
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**Mr. Suda
Venkateshwarulu**
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**VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
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CERTIFICATE

This is to certify that the project report entitled “**Design, Analysis And Fabrication of Rocker Bogie Mechanism**” is a bonafide record of a project

carried out by

Nizampet Mahesh Goud 1602-20-736- 080

Tuppathi Naresh 1602-20-736-087

Mandla Siddhartha 1602-15-736-105

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IBRAHIMBAGH, HYDERABAD

CERTIFICATE

This is to certify that the project report entitled "Conjugate Convection with Radiation from a Slab-Shaped Electronic Gadget with Uniform and Discrete Heat Generation" is a bonafide record of a project carried out by

Samala Bharath Kumar	1602-20-736-066
Nenavath Bharath Nayak	1602-20-736-067

DECLARATION

I hereby declare that the work in the dissertation entitled "Conjugate Convection with Radiation from a Slab-Shaped Electronic Gadget with Uniform and Discrete Heat Generation" in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (affiliated to Osmania University), Hyderabad during the academic year 2020-24 in partial fulfillment for the award of Degree in Bachelor of Mechanical Engineering.

P. Gururaja Rao
02 May 2024

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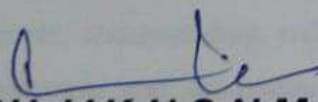
This is to certify that the project report entitled "DESIGN, DEVELOPMENT & ANALYSIS OF QUADCOPTER SURVEILLANCE SYSTEM FOR ACCIDENT DETECTION AND RAPID RESPONSE" is a bonafide record of a project carried out by

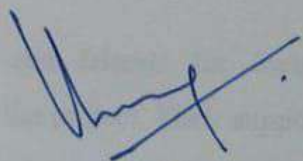
CH.SRUJAN REDDY - - - 1602-20-736-317

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Professor
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PROFESSOR

Dr T RAMAMOCHAN RAO

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iii

MECHANICAL ENGINEERING

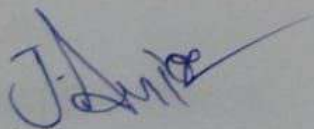
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AFFILIATED TO OSMANIA UNIVERSITY
IBRAHIMBAGH, HYDERABAD

CERTIFICATE

This is to certify that the project report entitled "**Design and Analysis of Aircraft wing**" is a bonafide record of a project carried out by

Jarapla Ashok	1602-20-736-065
Jatoth Gopal	1602-20-736-319
NagendraBabu	1602-20-736-320

In the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (affiliated to Osmania University), Hyderabad during the academic year 2018-19 in partial fulfillment for the award of Degree in Bachelor of Mechanical Engineering



Dr. J. Anjaneyulu

Project Guide

Assistant Professor
MECHANICAL ENGINEERING
VASAVI COLLEGE OF ENGINEERING
IBRAHIMBAGH, HYDERABAD-31.



Dr. T. Ramamohan Rao

Professor & HOD

Dr T RAMAMOHAN RAO
Professor & HOD
Dept. Of Mechanical Engg
Vasavi College of Engg
Ibrahimbagh, Hyderabad-31

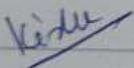
VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
AFFILIATED TO OSMANIA UNIVERSITY
IBRAHIMBAGH, HYDERABAD

CERTIFICATE

This is to certify that the project report entitled "Experimental and Predictive Analysis of Stiffness Modulation in Triangulated Cylindrical Origami" is a bonafide record of a project carried out by

Anusha Gudeti - - - 1602-20-736-064
Haresh Gundela - - - 1602-20-736-074

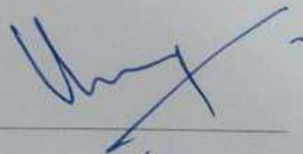
in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (affiliated to Osmania University), Hyderabad during the academic year 2023-24 in partial fulfillment for the award of Degree in Bachelor of Mechanical Engineering.



Dr. K Kishore

Project Guide

PROFESSOR
MECHANICAL ENGINEERING
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IBRAHIMBAGH, HYDERABAD - 31



Dr. T. Ramamohan Rao

Professor & HOD

Dept. of Mechanical Engg.

Dr T RAMAMOHAN RAO
Professor & HOD
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Ibrahimbagh, Hyderabad-31

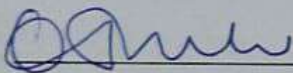
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IBRAHIMBAGH, HYDERABAD**

CERTIFICATE

This is to certify that the project report entitled "***Design and Fabrication of Multi-nut Opener and Tightener***" is a bonafide record of a project carried out by

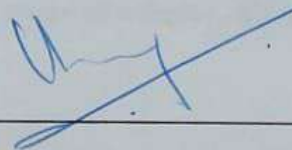
K. Prajwal Krishna Singh - - - 1602-20-736-091
Sharanya Jawalkar - - - 1602-20-736-103
S. Shiva Kumar - - - 1602-20-736-104

in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (affiliated to Osmania University), Hyderabad during the academic year 2023-24 in partial fulfillment for the award of Degree in Bachelor of Mechanical Engineering.



Dr. A. Srinivas
Professor
Project Guide

PROFESSOR
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Dr. T. Ramamohan Rao
Professor & HOD
Dept. of Mechanical Engg.

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VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
AFFILIATED TO OSMANIA UNIVERSITY
IBRAHIMBAGH, HYDERABAD

CERTIFICATE

This is to certify that the project report entitled "DESIGN AND FABRICATION OF BLUETOOTH CONTROLLED 360° ROTATING TROLLEY" is a bonafide record of a project carried out by

J.SAI DHRUVA TEJA	1602-20-736-097
K. SURYA KIRAN REDDY	1602-20-736-109
C.MANI CHARAN	1602-20-736-332

in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (affiliated to Osmania University), Hyderabad during the academic year 2020-24 in partial fulfillment for the award of Degree in Bachelor of Mechanical Engineering.



Dr. P. V GOPAL KRISHNA
Project Guide & Associate Professor
Department of
Mechanical Engineering

Mechanical Engineering Dept.,
Vasavi College of Engineering
Hyderabad-500 031.



Dr. T. Ramamohan RAO
Professor & HOD
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Dr T RAMAMOCHAN RAO
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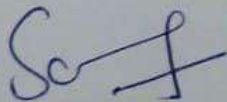
**VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
AFFILIATED TO OSMANIA UNIVERSITY
IBRAHIMBAGH, HYDERABAD**

CERTIFICATE

This is to certify that the project report entitled "Analysis of Fluid-Pressure-Penetration on Hydraulic Sealing System" is a bonafide record of a project carried out by

J. Leela Manohar - - - 1602-20-736-082

in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (affiliated to Osmania University), Hyderabad during the academic year 2023-24 in partial fulfillment for the award of Degree in Bachelor of Mechanical Engineering.



Mr. B. Sandeep
Assistant Professor
Project Guide

Assistant Professor
MECHANICAL ENGINEERING
VASAVI COLLEGE OF ENGINEERING
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Dr. T. Ramamohan Rao
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Dr T RAMAMOHAN RAO
Professor & HOD
Dept. Of Mechanical Engg.
Vasavi College of Engg
Ibrahimbagh, Hyderabad-31

April 30, 2024

CERTIFICATE

This is to certify that **Leela Manohar Juluri** is working as an Intern with CADFEM in the Pre & Post Sales department from the past 4 months i.e., January 10, 2024.

During Internship, he worked on **Analysis of Fluid-Pressure-Penetration on Hydraulic Sealing System** under the guidance of **Mr. Karthik Chittepu- Director-Customer Excellence**.

Your Sincerely,

For CADFEM INDIA PVT LTD



C. Madhukar

Authorized Signatory

Name: Madhukar Chatiri

Designation: CEO

Registered Office:

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CIN: U74999TG2007FTC053921
PAN: AADCC0799C
TAN: HYDC03300D
TIN: 36060076499
MSME: UDYAM-TS-02-0015670
GSTIN: 36AADCC0799C125



Bank Account Information:

Beneficiary Bank: HSBC Ltd.
Beneficiary Name: CADFEM India Pvt Ltd
INR Account No.: 082-710641-001
EUR Account No.: 082-710641-512
USD Account No.: 082-710641-511
IFSC: HSBC0500002
SWIFT: HSBCINBB

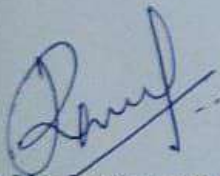
**VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
AFFILIATED TO OSMANIA UNIVERSITY
IBRAHIMBAGH, HYDERABAD**

CERTIFICATE

This is to certify that the project report entitled "**CFD Analysis of Drone Sprayer**" is a bonafide record of a project carried out by

Jaina Harshith - - - 1602-20-736-076

in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (affiliated to Osmania University), Hyderabad during the academic year 2023-24 in partial fulfillment for the award of Degree in Bachelor of Mechanical Engineering.



Dr. P. Venkateswara Rao
Associate Professor
Project Guide
(Internal)
Associate Professor

Mechanical Engineering Dept.,
Vasavi College of Engineering,
Hyderabad-500 031.



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Professor & HOD
Dept. of Mech Engg
Vasavi College of Engineering
Dr T RAMAMOCHAN RAO
Professor & HOD
Dept. Of Mechanical Engg.
Vasavi College of Engg
Ibrahimbagh, Hyderabad-31



भारतीय प्रौद्योगिकी संस्थान हैदराबाद
Indian Institute of Technology Hyderabad

भारतीय प्रौद्योगिकी संस्थान हैदराबाद

कान्डी - 502 285, संगारैड्य, तेलंगणा, भारत
फोन : (040) 2301 6033; फैक्स : (040) 2301 6033/32

Indian Institute of Technology Hyderabad

Kandi - 502 285, Sangareddy, Telangana, INDIA
Phone: (040) 2301 6033; Fax: (040) 2301 6033/32

Dr. Raja Banerjee
Professor
Dept. Mechanical & Aerospace Eng.

10 April 2024

To Whom It May Concern

This is to certify that Mr Harshith Jaina worked as an intern under my supervision during the period of Jan - April 2024. Harshith worked on **CFD modelling of a drone propeller**. As part of the internship, Harshith created a 3D model of a drone propeller, created a 3D unstructured mesh and performed CFD simulations using commercial CFD solver Ansys Fluent. He investigated several model settings and compared the CFD simulation results with in-house experimental results. He got good agreement, and we will now be using this model for further studies.

He worked diligently and learned quickly how to model the geometry, create a mesh and setup the case file. He would regularly update me on the progress he was making. I am very satisfied with the progress he made during his internship period.

Overall, I am very impressed with Harshith's work. He has mild manners and an enthusiastic learner. He can work well in a team as demonstrated by his interactions with other students in my research group. I wish him well for his future endeavours.

(Raja Banerjee)

Dr. Raja Banerjee
Professor
Department of Mechanical & Aerospace Engg.
Indian Institute of Technology Hyderabad
Kandi-502285, Sangareddy, Telangana, India




भारत डायनामिक्स लिमिटेड
BHARAT DYNAMICS LIMITED

CERTIFICATE

This is to certify that Ms. **N.V.S. SREERAGNI PREETHI** student of **Master of Engineering in Advanced Design and Manufacturing (Roll No. 1602-22-745-005)** of **Vasavi College of Engineering, Hyderabad**, has undergone the M.E. project during the period **18.Sep.2023 to 15.Mar.2024 at Bharat Dynamics Limited (BDL)**, Bhanur, Sangareddy Dist, Hyderabad. She has successfully completed the Project under the guidance of **Shri. B. SRIKANTH**, Manager Tool Room. Her Project was **“INVESTIGATION ON THE IMPROVEMENT OF STRUCTURAL STABILITY AND PERFORMANCE OF A THIN PRESSURE VESSEL”**.

During the said period of 6 months, she was found to be sincere and hardworking. She took interest in learning about new concepts.


.....म.ड.पा.एन.एल / Manager (CP-PMS)
भारत डायनामिक्स लि./BHARAT DYNAMICS LTD,
भानूर, मेदक / BHANUR, MEDAK-502305

Signature of Guide

Mr B. Srikanth

Manager Tool Room

Bharat Dynamics Limited, Bhanur



VASAVI COLLEGE OF ENGINEERING [A]

(Affiliated to Osmania University)

Ibrahimbagh, Hyderabad - 500031, Telangana.

2022 – 2024

DEPARTMENT OF MECHANICAL ENGINEERING
CERTIFICATE

This is to certify that the work in this dissertation entitled “**Study of mode I failure in GFRP Composite**” is submitted by **MOHAMMED ABDUR RAHMAN** bearing Roll number **1602-22-745-002** has been read and approved for meeting the requirements and regulations governing the award of the degree in Master of Engineering in **Advanced Design and Manufacturing** as specialization, to Vasavi College of Engineering during the academic year 2022-2024.

The work done in this dissertation has not been submitted to any other University/Institute for the award of any degree.

Dr. K. KISHORE

Professor

Department of Mechanical Engineering

Vasavi College of Engineering, Hyderabad

PROFESSOR

MECHANICAL ENGINEERING

VASAVI COLLEGE OF ENGINEERING
IBRAHIMBAGH, HYDERABAD - 31

Dr. T. RAMAMOCHAN RAO

Professor, Head of Department

Department of Mechanical Engineering

Vasavi College of Engineering, Hyderabad

Dr T RAMAMOCHAN RAO
Professor & HOD

Dept. Of Mechanical Engg
Vasavi College of Engg
Ibrahimbagh, Hyderabad-31



VASAVI COLLEGE OF ENGINEERING (A)
(Affiliated to Osmania University)

Ibrahimbagh, Hyderabad - 500031, Telangana.

DEPARTMENT OF MECHANICAL ENGINEERING
CERTIFICATE

This is to certify that the work in this dissertation entitled “EFFECTS OF PROCESS PARAMETERS ON PROPERTIES OF FLOW FORMED SLEEVE” is submitted by **KATILA YUVARAJU REDDY** bearing Roll number **1602-22-745-006** has been read and approved for meeting the requirements and regulations governing the award of the degree in Master of Engineering in **Advanced Design and Manufacturing** as specialization, to Vasavi College of Engineering during the academic year 2022-2024.

The work done in this dissertation has not been submitted to any other University/Institute for the award of any degree.

DR V. B. S. RAJENDRA PRASAD

Associate Professor

Department of Mechanical Engineering

Vasavi College of Engineering, Hyderabad

Associate Professor

Mechanical Engineering Dept.,

Vasavi College of Engineering

Hyderabad-500 031.

Dr. T. RAMAMOCHAN RAO

Professor, Head of Department

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Dr. T. RAMAMOCHAN RAO

Professor & HOD

Dept. Of Mechanical Engg

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Ibrahimbagh, Hyderabad-31



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This is to certify that Mr. **KATILA YUVARAJU REDDY** student of **Master of Engineering in Advanced Design and Manufacturing (Roll No. 1602-22-745-006)** of **Vasavi College of Engineering, Hyderabad**, has undergone the M.E. project during the period **18.Sep.2023 to 15.Mar.2024** at **Bharat Dynamics Limited (BDL)**, Bhanur, Sangareddy Dist, Hyderabad. He has successfully completed the Project under the guidance of **Shri. B. SRIKANTH**, Manager Tool Room. His Project was **"EFFECTS OF PROCESS PARAMETERS ON PROPERTIES OF FLOW FORMED SLEEVE"**.

During the said period of 6 months, he was found to be sincere and hardworking. He took interest in learning about new concepts.

प्रबंधक (घ.उ.पी.एम.एस) / Manager (CP-PMS)
भारत डायनामिक्स लि. / BHARAT DYNAMICS LTD.
भानूर, मेदक / BHANUR, MEDAK 502305

Signature of Guide

Mr B. Srikanth

Manager Tool Room

Bharat Dynamics Limited, Bhanur

DEPARTMENT OF MECHANICAL ENGINEERING
VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)

(Affiliated to Osmania University, approved by AICTE and accredited by NBA)



CERTIFICATE

This is to certify that the work in this dissertation entitled "*Design and Optimisation of body in white of a four-wheel vehicle*" is submitted by **MOHAMMED SADIQ MOHIUDDIN** bearing Roll number **1602-22-745-004** has been read and approved for meeting the requirements and regulations governing the award of the degree in Master of Engineering in **Advanced Design and Manufacturing** as specialization, to Vasavi College of Engineering during the academic year 2022-2024.

The work done in this dissertation has not been submitted to any other University/Institute for the award of any degree.

Signature of Internal Guide

DR. J. ANJANEYULU

Senior Assistant Professor,

Department of Mechanical Engineering,

Vasavi College Of Engineering, Hyderabad.

Assistant Professor
MECHANICAL ENGINEERING
VASAVI COLLEGE OF ENGINEERING
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Signature of HOD

Dr. T. RAMAMOCHAN RAO

Professor, Head

Department of Mechanical Engineering,

Vasavi college of Engineering, Hyderabad.

Dr T RAMAMOCHAN RAO
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VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
AFFILIATED TO OSMANIA UNIVERSITY
IBRAHIMBAGH, HYDERABAD

CERTIFICATE

This is to certify that the project report entitled "COMPARATIVE ANALYSIS OF TANGENTIAL OGIVE AND CONICAL NOSE CONES FOR SUBSONIC MISSILE" is a bonafide record of a project carried out by

Chegu Pavan	1602-20-736-023
Malladi Saket Surya	1602-20-736-029
Katukuri Sai Akshit Kumar	1602-20-736-307

in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (affiliated to Osmania University), Hyderabad during the academic year 2023-24 in partial fulfilment for the award of Degree in Bachelor of Mechanical Engineering.



Dr. CH V K N S N Moorthy

Professor, Associate Director R & D

PROFESSOR
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VASAVI COLLEGE OF ENGINEERING
IBRAHIMBAGH, HYDERABAD - 31



Dr. T. Rama Mohan Rao

Professor & HOD
Dr T RAMAMOHAN RAO
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प्रणाली प्रौद्योगिकी तथा प्रबंधन संस्थान

INSTITUTE OF SYSTEMS, TECHNOLOGY AND MANAGEMENT



पंजीकरण संख्या Regd. No. 213

वर्ष Year 2024

Skill India
जीवन भर - कृषि भर

क्र.सं. S.No. P-2023-088

परियोजना प्रमाण-पत्र PROJECT CERTIFICATE

सुश्री / श्री

Ms. / Mr. Chegu Parvan

पुत्री / पुत्र श्रीमती एवं श्री

Daughter / Son of Smt. Chegu Jaya Shri Chegu Mahesh

कॉलेज / संस्थान

College / Institute Vasavi College of Engineering

विषय / क्षेत्र

Subject / Discipline B.Tech [Mechanical] वर्ष/सेमिस्टर

वर्ष/सेमिस्टर

Year / Semester 4/2

परियोजना कार्य / प्रशिक्षण कार्य

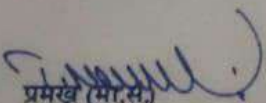
has completed Project Work / Training on Design, Fabrication and Axo Dynamic Analysis of Tangential ogive Nose Cone

Duration 3 Months Period from 12/01/2024 to 11/04/2024

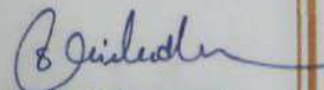
के बीच पूर्ण किया है.

इस कार्य के दौरान इन्होंने अध्ययन में पर्याप्त रुचि दिखाई है.

He / She has shown keen interest in learning during the period of Project.


प्रमुख (मा.स.)
Head (HR)
TATINA NARASIMHAM





प्रभारी, परियोजना कार्य
Incharge, Project Works
कृष्णवर्धन कोन्तेटी

KRISHNA YARDHAN KONTHETI
वरिष्ठ प्रबंधक (मा.सं., एल अण्ड डी अण्ड सी एल एन) केबीयू
Sr. Manager (HR-L&D&CLM) KBU

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
AFFILIATED TO OSMANIA UNIVERSITY
IBRAHIMBAGH, HYDERABAD

CERTIFICATE

This is to certify that the project report entitled
"Static Bipedal Robot Development for Stable
Gait" is a bonafide record of a project carried out
by

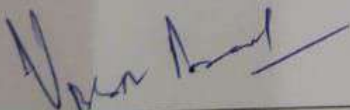
Bogini Laya

- - - 1602-20-736-018

K.V. Sudheshna

- - - 1602-20-736-038

in the Department of Mechanical Engineering, Vasavi
College of Engineering (Autonomous) (affiliated to
Osmania University), Hyderabad during the academic
year 2023-24 in partial fulfillment for the award of
Degree in Bachelor of Mechanical Engineering.



**Dr. V. B. S. Rajendra
Prasad**

Project Guide
Associate Professor

Mechanical Engineering Dept.,
Vasavi College of Engineering
Hyderabad-500 031.



Dr. T. Ramamohan Rao

Professor & HOD

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Dr T RAMAMOHAN

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Email : 7stechhyd@gmail.com

Technology Human Care

INTERNSHIP CERTIFICATE

This is to certify that Ms Bogini Laya (1602-20-736-018) of the course Mechanical Engineering of Vasavi College of Engineering at Ibrahimbagh, Hyderabad, has undergone an Internship at our Company from 17th January to 17th April 2024. During this time he has been working on a project Design and analysis of static bipedal robot development for stable gait. During this period, her performance was found to be good.

Dr. P.Chandra Sheker

Technical Advisor

7S Technologies

17th April 2024

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
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HYDERABAD

CERTIFICATE

This is to certify that the project report entitled "**MODELING AND FABRICATION OF WATER PUMPING SYSTEM AND GENERATION OF ELECTRICITY USING WIND MILL**" is a bonafide record of a project carried out by

V. LAKSHMI PRASAD - - - 1602-20-736-017

DAIDA VENU - - - 1602-20-736-304

K. NANDA VARDHAN - - - 1602-20-736-312

in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (affiliated to Osmania University), Hyderabad during the academic year 2020-24 in partial fulfillment for the award of Degree in Bachelor of Mechanical Engineering.

Venu
03/05/24



Mr. M. Venu Gopal Reddy

Project Guide

Assistant Professor
MECHANICAL ENGINEERING
VASAVI COLLEGE OF ENGINEERING
IBRAHIMBAGH, HYDERABAD-501 301.

Dr. T. Ramamohan Rao

Professor & HOD
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Dr T RAMAMOHAN RAO

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Ibrahimbagh, Hyderabad-501 301

**VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
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IBRAHIMBAGH, HYDERABAD**

CERTIFICATE

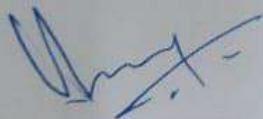
This is to certify that the project report entitled "Modelling and Fabrication of Triple-Head Crane" is a bonafide record of a project carried out by

Manikanta Komirisetty --- 1602-20-736-013

Chidurala Koushik --- 1602-20-736-014

Chilkuri Krithik Reddy --- 1602-20-736-016


in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (affiliated to Osmania University), Hyderabad during the academic year 2023-24 in partial fulfillment for the award of Degree in Bachelor of Mechanical Engineering.



Dr. T. Ramamohan Rao

Project Guide

Dr T RAMAMOCHAN RAO
Professor & HOD
Dept. Of Mechanical Engg
Vasavi College of Engg
Ibrahimbagh, Hyderabad-31



Dr. T. Ramamohan Rao

Professor & HOD

Dept. of Mechanical Engg.

Dr T RAMAMOCHAN RAO
Professor & HOD
Dept. Of Mechanical Engg
Vasavi College of Engg
Ibrahimbagh, Hyderabad-31

**VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
AFFILIATED TO OSMANIA UNIVERSITY
IBRAHIMBAGH, HYDERABAD**

CERTIFICATE

This is to certify that the project report entitled "Design and Fabrication of Android Controlled Motorized Car Jack" is a bonafide record of a project carried out by

Cheemakurthi Kaushik - - - 1602-20-736-012
Kalujulapati Krishna Sandeep - - - 1602-20-736-015
Sanka Vasista Sai - - - 1602-20-736-042

in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (affiliated to Osmania University), Hyderabad during the academic year 2023-24 in partial fulfillment for the award of Degree in Bachelor of Mechanical Engineering.



Mr. K. Veladri
Project Guide



Dr. T. Ramamohan Rao
Professor & HOD
Dept. of Mechanical Engg.

Dr T RAMAMOHAN RAO
Professor & HOD
Dept. Of Mechanical Engg.
Vasavi College of Engg
Ibrahimbagh, Hyderabad-31

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)

AFFILIATED TO OSMANIA UNIVERSITY

IBRAHIMBAGH, HYDERABAD

CERTIFICATE

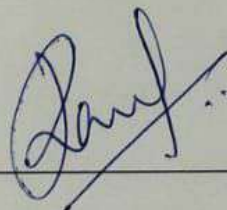
This is to certify that the project report entitled "**Design and Analysis of Flat Belt Conveyor for Frictional Stress Reduction.**" is a bonafide record of a project carried out by

V. Kashyap Reddy 1602-20-736-011

P. Sai Arjun Kumar 1602-20-736-025

M. Sri Charan 1602-20-736-037

in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (affiliated to Osmania University), Hyderabad during the academic year 2023-24 in partial fulfillment for the award of Degree in Bachelor of Mechanical Engineering.

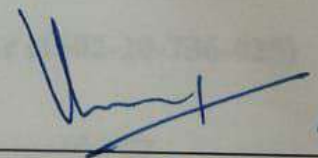


Dr. P. Venkateswara Rao

Project Guide

Department of Mechanical Engineering

Associate Professor
Mechanical Engineering Dept.,
Vasavi College of Engineering



Dr. T. Ramamohan Rao

Professor & HOD

Department of Mechanical Engineering

Dr T RAMAMOHAN RAO
Professor & HOD
Dept. Of Mechanical Engg
Vasavi College of Engg
Ibrahimbagh, Hyderabad 24

TO WHOMSOEVER IT MAY CONCERN

CERTIFICATE

This is to certify that Mr. P. Sai Arjun Kumar of Vasavi College of Engineering pursuing B.E. (Mechanical) and bearing college Id No. 1602-20-736-025 has successfully completed an internship with M/s Avishkar Industries Private Limited, Hyderabad during the academic year 2023-24. The duration of the internship was from 18/01/2024 to 12/04/2024. During the period he has worked in Design, planning, Production, and Quality Control, Idlers unit and Structural fabrication unit.

For Avishkar Industries Private Limited



Ataur Rehman
General Manager & Co-ordinator

Date: 08/04/2024

Place: Hyderabad

Regd. Office :

Survey No. 42/A, Alinagar Hamlet, Chetlapotharam, Gaddapotharam Gram Panchayat, Jinnaram (M),

Medak Dist: (502 319) Telangana, India.

Web : www.avishkarindustries.com Email : sanjaykabra@avishkarindustries.com

CIN : U29199TG1982PTC003494 GSTIN : 36AAICA7714J1ZH

**VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
AFFILIATED TO OSMANIA UNIVERSITY
IBRAHIMBAGH, HYDERABAD**

CERTIFICATE

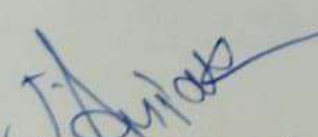
This is to certify that the project report entitled "Manufacturing and Quality Inspection of Air Intake Connector used in Missiles " is a bonafide record of a project carried out by

M. Jhansi Laxmi Bai - - - 1602-20-736-010

B. Leela Trishul - - - 1602-20-736-019

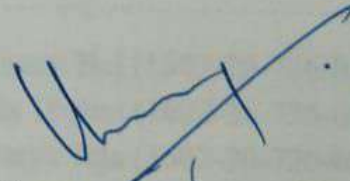
J. Shiva Surya Teja - - - 1602-20-736-033

in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (affiliated to Osmania University), Hyderabad during the academic year 2018-19 in partial fulfillment for the award of Degree in Bachelor of Mechanical Engineering.


Dr. J. Anjaneyulu

Project Guide

Assistant Professor
MECHANICAL ENGINEERING
VASAVI COLLEGE OF ENGINEERING
IBRAHIMBAGH, HYDERABAD-31


Dr. T. Ramamohan Rao

Professor & HOD
Dept. of Mechanical Engg.

Dr T RAMAMOCHAN RAO



भारत डायनामिक्स लिमिटेड

BHARAT DYNAMICS LIMITED

(भारत सरकार का उद्यम A Govt. of India Enterprise)

रक्षा मंत्रालय Ministry of Defence

कंचनबाग Kanchanbagh :: हैदराबाद Hyderabad – 500058.

प्रणाली प्रौद्योगिकी तथा प्रबंधन संस्थान

INSTITUTE OF SYSTEMS, TECHNOLOGY AND MANAGEMENT



Skill India
जीवन भर - कृतज्ञ भारत

पंजीकरण संख्या Regd. No. 210

क्र.सं. S.No. P-2023-085

वर्ष Year 2024

परियोजना प्रमाण-पत्र PROJECT CERTIFICATE

सुश्री / श्री

Ms. / Mr. Malovath Jhansi Laxmi Bai

पुत्री / पुत्र श्रीमती एवं श्री

Daughter / Son of Smt. M. Neela Shri M. Nagu Naik

कॉलेज / संस्थान

College / Institute Vasavi college of Engineering

विषय / क्षेत्र

Subject / Discipline B.Tech [Mechanical] वर्ष/सेमिस्टर 4/2

परियोजना कार्य / प्रशिक्षण कार्य

has completed Project Work / Training on Design, Fabrication and Quality check of Air Intake Connector.

Duration

3 Months

Period from

09/01/2024

से

08/04/2024

के बीच पूर्ण किया है.

इस कार्य के दौरान इन्होंने अध्ययन में पर्याप्त रुचि दिखाई है.

He / She has shown keen interest in learning during the period of Project.

प्रमुख (मा.सं.)

Head (HR) 13/04/2024

तातिना नरसिम्हम

TATINA NARASIMHAM

सहायक (प्रधान - मा.सं.) के बी यू तथा आई बी यू

General M...



Krishna Vardhan Kontheti

प्रभारी, परियोजना कार्य

Incharge, Project Works

कृष्णवर्धन कोन्तेटी

KRISHNA VARDHAN KONTHETI

रीजेंट पबंधक (मा.सं.-एल अण्ड डी अण्ड सी एल एम) केवीयू

Sr. Manager (HR-I & D&CI) MKRU

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
AFFILIATED TO OSMANIA UNIVERSITY
IBRAHIMBAGH, HYDERABAD

CERTIFICATE

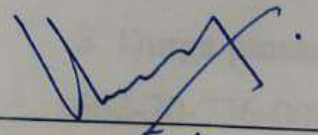
This is to certify that the Major project report entitled “**THERMAL ANALYSIS OF CPU HEATSINK WITH PLATE FINS AND SLOTTED FINS**” is a bonafide record of a Major project work carried out by

L. Balram	1602-20-736-007
S. Durga prasad	1602-20-736-008
A. Gokul Rao	1602-20-736-009

in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (Affiliated to Osmania University), Hyderabad during the academic year 2023-24.



Dr. S. Venkataiah
Project Guide
Dept. of Mechanical Engg.
Associate Professor
Mechanical Engineering Dept.,
Vasavi College of Engineering
Hyderabad- 500 031.



Dr. T. Ramamohan Rao
Professor & HOD
Dept. of Mechanical Engg.
Dr T RAMAMOHAN RAO
Professor & HOD
Dept. Of Mechanical Engg
Vasavi College of Engg
Ibrahimbagh, Hyderabad-31


VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
AFFILIATED TO OSMANIA UNIVERSITY
IBRAHIMBAGH, HYDERABAD

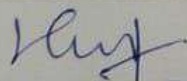
CERTIFICATE

This is to certify that the project report entitled
**"Modelling, Analysis and Fabrication of IOT controlled
Forklift Robot"** is a bonafide record of a project
carried out by

Anil Polam 1602-20-736-005
Mohammed Afroz 1602-20-736-021
Mud Niranjana 1602-20-736-022

in the Department of Mechanical Engineering, Vasavi
College of Engineering (Autonomous) (affiliated to
Osmania University), Hyderabad during the academic
year 2023-24 in partial fulfillment for the award of
Degree in Bachelor of Mechanical Engineering.





Mr. J. Kantha Rao
Project Guide

Assistant Professor
MECHANICAL ENGINEERING
VASAVI COLLEGE OF ENGINEERING
IBRAHIMBAGH, HYDERABAD-31

Dr. T. Ramamohan Rao
Professor & HOD
Dept. of Mechanical Engg.

Dr T RAMAMOHAN RAO
Professor & HOD
Dept. Of Mechanical Engg
Vasavi College of Engg
Ibrahimbagh, Hyderabad-31

VASAVI COLLEGE OF ENGINEERING
(AUTONOMOUS) AFFILIATED TO OSMANIA
UNIVERSITY IBRAHIMBAGH, HYDERABAD

CERTIFICATE

This is to certify that the project report entitled "**DESIGN AND ANALYSIS OF SANDWICH STRUCTURES IN THERMAL PROTECTION SYSTEM.**" is a bonafide record of a project carried out by

ANANYA.P.GANTI- 1602-20-736-004

M.SUDHARSHAN REDDY- 1602-20-736-314

in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (affiliated to Osmania University), Hyderabad during the academic year 2020-24 in partial fulfillment for the award of Degree in Bachelor of Mechanical Engineering.

M.V.V.
13/5/24

Dr. M Gayatri Vineela

Project Guide

Assistant Professor
MECHANICAL ENGINEERING
VASAVI COLLEGE OF ENGINEERING
IBRAHIMBAGH, HYDERABAD-31.

T. Ramamohan Rao

Dr. T. Ramamohan Rao

Professor & HOD
Dept. of Mechanical Engg.

Dr T RAMAMOHAN RAO
Professor & HOD
Dept. Of Mechanical Engg
Vasavi College of Engg
Ibrahimbagh, Hyderabad-31



सत्यमेव जयते

Government of India
Ministry of Defence

**DEFENCE RESEARCH &
DEVELOPMENT LABORATORY**

Post- Kanchanbagh
Hyderabad – 500 058
Phone: 040-24583550/3569

Date: 2 May, 2024

CERTIFICATE

This is to certify that the internship work titled “ **DESIGN AND ANALYSIS OF SANDWICH STRUCTURES IN THERMAL PROTECTION SYSTEM**” has completed at DOFS division by **MIDDINTI SUDHARSHAN REDDY**, bearing roll no. **1602-20-736-314**, student of **VASAVI COLLEGE OF ENGINEERING**, in partial fulfillment of the requirement for the award of **B.Tech in Mechanical Engineering** during the academic batch **2020-2024**, is a record of the bonafide work carried out by him at Directorate of Flight Structures, Defence Research and Development Laboratory of DRDO, Kanchanbagh, Hyderabad during the period from **18 January 2024 to 12 April 2024**. His attendance, conduct and performance during this period were excellent.

Project Guide

(RAVI TEJA K)

Scientist 'B'

DOFS

DRDL, Hyderabad

कावाडि रवि तेजा / Kavadi Ravi Teja
वैज्ञानिक 'बी' / Scientist 'B'
एस. डि. ए. डि. , डि.ओ. एफ. एस. / SDAD, DOFS
रक्षा मंत्रालय / Ministry of Defence
ए. ज. वि. स. , हैदराबाद / DRDL, Hyderabad-58

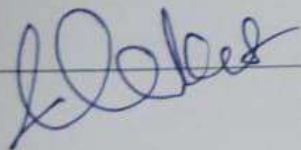
VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
AFFILIATED TO OSMANIA UNIVERSITY
IBRAHIMBAGH, HYDERABAD

CERTIFICATE

This is to certify that the project report entitled "Design and performance analysis of Earth Pipe Heat Exchanger" is a bonafide record of a project carried out by

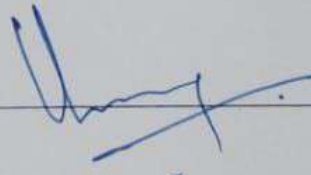
Ananya Cherupelly	1602-20-736-003
Chidurala Sai Teja	1602-20-736-028
J. Vishwa Charan	1602-20-736-046

in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (affiliated to Osmania University), Hyderabad during the academic year 2023-24 in partial fulfillment for the award of Degree in Bachelor of Mechanical Engineering.



Mr. S. Venkateswarulu
Project Guide

Assistant Professor
MECHANICAL ENGINEERING
VASAVI COLLEGE OF ENGINEERING
IBRAHIMBAGH, HYD-31



Dr. T. Ramamohan Rao
Professor & HOD
Dept. of Mechanical Engg.

Dr T RAMAMOHAN RAO
Professor & HOD
Dept. Of Mechanical Engg
Vasavi College of Engg
Ibrahimbagh, Hyderabad-31

**VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
AFFILIATED TO OSMANIA UNIVERSITY
IBRAHIMBAGH, HYDERABAD**

CERTIFICATE

This is to certify that the project report entitled “**DESIGN AND DEVELOPMENT OF A CUSTOMIZABLE QUAD COPTER WITH ADDITIVE MANUFACTURING TECHNIQUES**” is a bonafide record of a project carried out by

AKSHAT ANAND 1602-20-736-002

in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (affiliated to Osmania University), Hyderabad during the academic year 2023-24 in partial fulfillment for the award of Degree in Bachelor of Mechanical Engineering.



Dr. S. V Ramana
Project Guide

Dr. T. Ramamohan Rao
Professor & HOD
Dept. of Mechanical Engg.

Dr T RAMAMOHAN RAO
Professor & HOD
Dept. Of Mechanical Engg
Vasavi College of Engg
Ibrahimbagh, Hyderabad-31

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
AFFILIATED TO OSMANIA UNIVERSITY
IBRAHIMBAGH, HYDERABAD

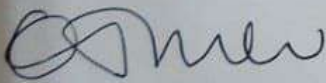
CERTIFICATE

This is to certify that the project report entitled "Design of Dry Room for Battery Pack Assembly" is a bonafide record of a project carried out by

SN Amruth Varsh 1602-20-736-001

E Anvesh 1602-20-736-006

in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (affiliated to Osmania University), Hyderabad during the academic year 2023-24 in partial fulfillment for the award of Degree in Bachelor of Mechanical Engineering.



Mr. K Srinivasa Rao

Project Guide

Associate Professor
Mechanical Engineering Dept.,
Vasavi College of Engineering
Hyderabad-500 031.



Dr. T. Ramamohan Rao

Professor & HOD

Dept. of Mechanical Engg.

Dr T RAMAMOCHAN RAO
Professor & HOD
Dept. Of Mechanical Engg
Vasavi College of Engg
Ibrahimbagh, Hyderabad-31



03/05/2024

TO WHOMSOEVER IT MAY CONCERN,

This is to certify that **Mr. Anvesh Erukulla**, student of Department of Mechanical Engineering bearing roll no. **1602-20-736-006** at **Vasavi College of Engineering, Hyderabad**, has completed his Project at **Amara Raja Advanced Cell Technologies Pvt. Ltd.** under my guidance on the project titled "Design of Dry Room for Battery Pack Assembly" from 29th January 2024 to 26 April 2024.

Yours Sincerely,

Jayasuriya S,
(Project guide)

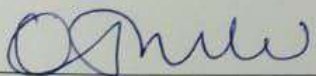
VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
AFFILIATED TO OSMANIA UNIVERSITY
IBRAHIMBAGH, HYDERABAD

CERTIFICATE

This is to certify that the project report entitled "Design and Analysis of Heat Sink for Electronic Module" is a bonafide record of a project carried out by

Palarapu Pavan Kalyan - - - 1602-20-736-301

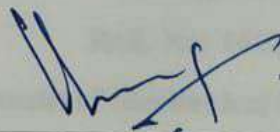
in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (affiliated to Osmania University), Hyderabad during the academic year 2023-24 in partial fulfillment for the award of Degree in Bachelor of Mechanical Engineering.



Mr. K. Srinivasa Rao

Project Guide

Associate Professor
Mechanical Engineering Dept.
Vasavi College of Engineering
Hyderabad-500 031.



Dr. T. Ramamohan Rao

Professor & HOD

Department of Mechanical Engineering

Dr T RAMAMOHAN RAO
Professor & HOD
Dept. Of Mechanical Engg
Vasavi College of Engg
Ibrahimbagh, Hyderabad-31

Date: 02-05-2024

To

The Head of the Department,
Department of Mechanical Engineering,
Vasavi College of Engineering (Affiliated to O.U)
Ibrahimbagh,
HYDERABAD.

Dear Sir,

This is to inform you that Mr. Palarapu Pavan Kalyan, pursuing B.E. Mechanical Engineering bearing Roll No 1602-20-736-301, is working for his Bachelor's degree Program - Final Year Project in our organization as an intern for a period of 3 (Three) months starting from 12th February 2024 to Present Date.

The title of his project is

"Design and Analysis of Heat Sink for Electronic Module".

His Project is a part of the IP of our organization. Hence all the details pertaining to the project cannot be revealed as a policy of the company.

Kindly oblige and accept the thesis.

Thanks & Regards

For Unistring Tech Solutions Pvt Ltd

M. Vishnu Prasad
Dr. M. Vishnu Prasad,

Division Head, Strategic HR.



Registered office :

Plot No:2 & 3, Sy. No. 6, Rank One Ektha Towers
2nd Floor, Kondapur, Hyderabad,
Telangana, INDIA -500084.

Development Center:

D.No: 2-91/77/2/ST/11,Signature Towers (11th Floor),
Opp. Botanical Garden Rd, Venkat Enclave, Whitefields,
Kondapur, Hyderabad, Telangana, INDIA - 500084.

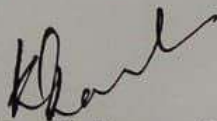
**VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
AFFILIATED TO OSMANIA UNIVERSITY
IBRAHIMBAGH, HYDERABAD**

CERTIFICATE

This is to certify that the project report entitled "Modelling and Analysis of the Chassis of a 3-Wheeled Electric Vehicle" is a bonafide record of a project carried out by

Harshdeep Singh Saini - - - 1602-20-736-315

in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (affiliated to Osmania University), Hyderabad during the academic year 2023-24 in partial fulfillment for the award of Degree in Bachelor of Mechanical Engineering.

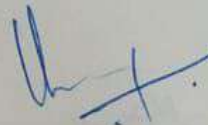


Mr. K. Isaac Spurgeon

Project Guide

Assistant Professor

MECHANICAL ENGINEERING
VASAVI COLLEGE OF ENGINEERING
IBRAHIMBAGH, HYDERABAD-31.



Dr. T. Ramamohan Rao

Professor & HOD

Dept. of Mechanical Engg.

Dr T RAMAMOHAN RAO

Professor & HOD

Dept. Of Mechanical Engg
Vasavi College of Engg
Ibrahimbagh, Hyderabad-31



Ref: Z21/Internship/24-25

Date: 29-04-2024

TO WHOMSOEVER IT MAY CONCERN

Sub: Completion of Internship

This is to certify that Mr. Harshdeep Singh Saini has successfully completed his Internship in Manufacturing Engineering Department at Zero 21 Renewable Energy Solutions, Hyderabad from 20-01-2024 to 20-04-2024.

We appreciate his valuable contribution and wish him all the very best in his future endeavors.

For **Zero21 Renewable Energy Solutions Pvt.Ltd,**




Authorized Signatory


VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS) AFFILIATED TO
OSMANIA UNIVERSITY
IBRAHIMBAGH, HYDERABAD

CERTIFICATE


This is to certify that the project report entitled "**Study of Manufacturing Seamless Stainless Tubes and Analysis of Cold Pilgering Operation**" is a bonafide record of a project carried out by

Apsana Begum - - - 1602-20-736-306
P. Dinesh Goud - - - 1602-20-736-310
V. Pruthvi Raj Goud - - - 1602-20-736-316

in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (affiliated to Osmania University), Hyderabad during the academic year 2023-24 in partial fulfillment for the award of Degree in Bachelor of Mechanical Engineering.


31/5/24

Mr. B. Sandeep
Project Guide


Dr. T. Ramamohan Rao
Professor & HOD
Dept. of Mechanical Engg.

Assistant Professor
MECHANICAL ENGINEERING
VASAVI COLLEGE OF ENGINEERING
IBRAHIMBAGH, HYDERABAD-51.

Dr T RAMAMOCHAN RAO
Professor & HOD
Dept. Of Mechanical Engg
Vasavi College of Engg
Ibrahimbagh, Hyderabad-31



Government of India
Department of Atomic Energy
NUCLEAR FUEL COMPLEX

BONAFIDE CERTIFICATE

This is to certify that Mr. Miss Apsana Begum, Pabba Dinesh Goud, Veerlapally Pruthvi Raj Goud has/have done his/her/their Project Work under my guidance during the period from 29-01-2024 to 27-02-2024 toon the topic entitled Study of Manufacturing Seamless Stainless Tubes and Analysis of Cold Pilgering Operation with reference to Nuclear Fuel Complex. It is ensured that the report does not contain classified Or Plant operational live data in any form.

Hyderabad

Date: 27-02-2024

Signature:

Name: N. Harsha एन. हर्षा/N. HARSHA
प्रबंधक (एसएसटीपी)/Manager(SSTP)

Design. Of Guide: Manager

Plant: SSTP

Approved by

The Manager of the Plant

एन. हर्षा/N. HARSHA
प्रबंधक(एसएसटीपी)/Manager(SSTP)
भारत सरकार/Government of India
परमाणु ऊर्जा विभाग/Department of Atomic Energy
नैतिकीय ईंधन सप्लाय/Nuclear Fuel Complex
(बी.आई.एन.ए.कम्प्लेक्स, हैदराबाद/ECIL Post, Hyderabad-500 002.

P.T.O.

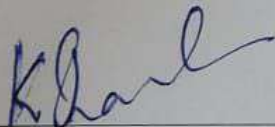
VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
AFFILIATED TO OSMANIA UNIVERSITY
IBRAHIMBAGH, HYDERABAD

CERTIFICATE

This is to certify that the project report entitled "Analysis and Testing of Adhesive Lap joint and External Thermal Protection System for Composite Rocket Motor Casings" is a bonafide record of a project carried out by

Mallidi Yashwanth Reddy - - - 1602-20-736-048
Karuvath Chakra Hemanth - - - 1602-20-736-309

in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (affiliated to Osmania University), Hyderabad during the academic year 2023-24 in partial fulfillment for the award of Degree in Bachelor of Mechanical Engineering.



Mr. K. Isaac Spurgeon

Project Guide

Assistant Professor
MECHANICAL ENGINEERING
VASAVI COLLEGE OF ENGINEERING
IBRAHIMBAGH, HYDERABAD-31.



Dr. T. Ramamohan Rao

Professor & HOD

Department of Mechanical Engineering

Dr T RAMAMOHAN RAO
Professor & HOD

Dept. Of Mechanical Engg
Vasavi College of Engg
Ibrahimbagh, Hyderabad-31

दूरवाच/Telephone 040-24583876
फैक्स/Fax 040-24583877
ई-मेल /E-mail hrdg asl@gov.in



75
आज़ादी का
अमृत महोत्सव

भारत सरकार, रक्षा मंत्रालय
Government of India, Ministry of Defence
रक्षा अनुसंधान एवं विकास संगठन
Defence Research & Development Organisation
उन्नत प्रणाली प्रयोगशाला
ADVANCED SYSTEMS LABORATORY
डॉ. ए.पी.जे. अब्दुल कलाम प्रक्षेपास्त्र समष्टि
Dr. A.P.J. Abdul Kalam Missile Complex
कंचनबाग डाकघर, हैदराबाद - 500 058
PO Kanchanbagh, Hyderabad - 500 058

CERTIFICATE

This is to certify that Mr. Karuvath Chakra Hemanth (Roll No. 1602-20-736-309), IV Year, B.E (Mechanical) from Vasavi College of Engineering, Ibrahimbagh, Hyderabad has successfully completed Internship on "Analysis and Testing of Adhesive Lap Joint & External Thermal Protection system for Composite Rocket Motor Casings" at Advanced Systems Laboratory, DRDO, Hyderabad under the guidance of Sri. G. Jaganatha Reddy, Sc 'E' from 2nd February – 2nd May 2024.

This Certificate is issued by this Laboratory after completion of Internship as a part of their Educational Curriculum. No stipend / Salary is entitled by the candidate during the course of the Internship. The Certificate cannot be submitted as a documentary proof for claiming the Internship duration as service experience for any of their future employment / recruitment.

His performance and conduct during the period was good.

(HEMANT KUMAR)
SCIENTIST 'E'
HRDG, ASL
FOR DIRECTOR, ASL

(G. JAGANATHA REDDY)
SCIENTIST 'E'
CPDC / ASL
EXTERNAL GUIDE

प्रधान, एच.आर.डी.जी. / Head, HRDG
उन्नत प्रणाली प्रयोगशाला / Advanced Systems Laboratory
रक्षा मंत्रालय, डी.आर.डी.ओ. / Ministry of Defence, DRDO
कंचनबाग, हैदराबाद / Kanchanbagh, Hyderabad-500 058

जी जगन्नाथ रेड्डी / G JAGANATHA REDDY
वैज्ञानिक / Scientist
उन्नत प्रणाली प्रयोगशाला / Advanced Systems Laboratory
डी आर डी ओ, रक्षा मंत्रालय / DRDO, Min. of Defence
हैदराबाद / Hyderabad-500058.

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
AFFILIATED TO OSMANIA UNIVERSITY IBRAHIMBAGH,
HYDERABAD

CERTIFICATE

This is to certify that the project report entitled "**MODELING AND FABRICATION OF SOLAR POWERED SEED SOWING MACHINE.**" is a bonafide record of a project carried out by

R.YASHWANTH - - - 1602-20-736-047

V.SUMMANTH - - - 1602-20-736-302

RAVIKANTI SHIVASURYA - - - 1602-20-736-308

in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (affiliated to Osmania University), Hyderabad during the academic year 2020-24 in partial fulfillment for the award of Degree in Bachelor of Mechanical Engineering.

B.N.Mandhar

Mr. B. Naga Manohar
Project Guide

Assistant Professor
MECHANICAL ENGINEERING
VASAVI COLLEGE OF ENGINEERING
IBRAHIMBAGH, HYDERABAD-31.

[Signature]

Dr. T. Ramamohan Rao
Professor & HOD
Dept. of Mechanical Engg.

Dr T RAMAMOCHAN RAO
Professor & HOD
Dept. Of Mechanical Engg
Vasavi College of Engg
Ibraimbagh, Hyderabad-31

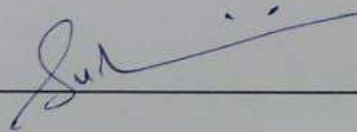
VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
AFFILIATED TO OSMANIA UNIVERSITY
IBRAHIMBAGH, HYDERABAD

CERTIFICATE

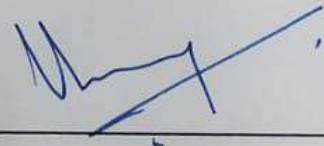
This is to certify that the project report entitled
“**FABRICATION OF CARTESIAN PLOTTER**” is a bonafide
record of a project carried out by

M. Sujith Reddy	1602-20-736-040
A. Varun Tej	1602-20-736-041
S. Venkata Dinesh	1602-20-736-043

in the Department of Mechanical Engineering, Vasavi
College of Engineering (Autonomous) (affiliated to
Osmania University), Hyderabad during the academic
year 2023-24 in partial fulfillment for the award of
Degree in Bachelor of Mechanical Engineering.



Dr. P. V. S. Subhashini
Assistant Professor
Project Guide



Dr. T. Ramamohan Rao
Professor & HOD
Dept. of Mechanical Engg.

Assistant Professor
MECHANICAL ENGINEERING
VASAVI COLLEGE OF ENGINEERING
IBRAHIMBAGH, HYDERABAD-31.

Dr. T. RAMAMOCHAN RAO
Professor & HOD
Dept. Of Mechanical Engg
Vasavi College of Engg
Ibrahimbagh, Hyderabad-31

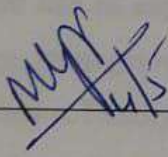
VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
AFFILIATED TO OSMANIA UNIVERSITY IBRAHIMBAGH,
HYDERABAD

CERTIFICATE

This is to certify that the project report entitled “**FAILURE ANALYSIS OF HYDRAULIC CYLINDER**” is a bonafide record of a project carried out by

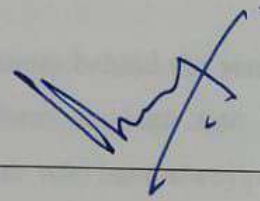
K Suhas Bharadwaj 1602-20-736-039

in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (affiliated to Osmania University), Hyderabad during the academic year 2023-24 in partial fulfillment for the award of Degree in Bachelor of Mechanical Engineering.



Dr. Gayatri. V. M
Assistant Professor
Project Guide

Assistant Professor
MECHANICAL ENGINEERING
VASAVI COLLEGE OF ENGINEERING
IBRAHIMBAGH, HYDERABAD-31.



Dr. T. Ramamohan Rao
Professor & HOD
Dept. of Mechanical Engg.

Dr T RAMAMOCHAN RAO
Professor & HOD
Dept. Of Mechanical Engg
Vasavi College of Engg
Ibrahimbagh, Hyderabad-31



राष्ट्रीय इस्पात निगम लिमिटेड
(भारत सरकार का उद्यम)
विशाखपट्टणम इस्पात संयंत्र
विशाखपट्टणम

RASHTRIYA ISPAT NIGAM LIMITED
(A Government of India Enterprise)
Visakhapatnam Steel Plant
Visakhapatnam

ISO 9001:2015, ISO 14001, ISO 50001, ISO 27001 & OHSAS 18001 Certified Company

अधीगम और विकास केंद्र Learning and Development Center

Reg.No. : 100022626

प्रमाणपत्र Certificate

प्रमाणित किया जाता है कि श्री/ This is to certify that Mr./Ms. **KALANADHABHATLA SUHAS BHARADWAJ** student of (वर्ष/पाठ्यक्रम/शाखा - Year/course/Branch) **4/BE/B TECH/MECHANICAL/ INDUSTRIAL & PRODUCTION/INDUSTRIAL** विद्यार्थी ने from **VASAVI COLLEGE OF ENGINEERING, HYDERABAD** से has undergone **14 Week** प्रशिक्षण training विशाखापत्तनम इस्पात संयंत्र के at Visakhapatnam Steel Plant in **THERMAL POWER PLANT (TPP)** विभागों में department from दि. **08-01-2024** से to **15-04-2024** प्राप्त तक किया | परियोजना शीर्षक The Project Title is **STUDY PROJECT ON TPP BOILERS AND TURBINE OPERATION** है। प्रशिक्षण अवधि में उनका आचरण His/Her conduct during the period of training is **GOOD** है।

स्थल/Place : Visakhapatnam

दि./Date : 15-04-2024



M Ganesh Babu
AGM (Trg.)
Learning & Development Centre
RINL, Visakhapatnam steel plant.
Visakhapatnam

**VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
AFFILIATED TO OSMANIA UNIVERSITY
IBRAHIMBAGH, HYDERABAD.**

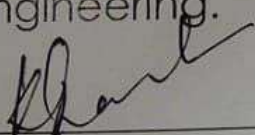
CERTIFICATE

This is to certify that the project report entitled
**"MODELING AND ANALYSIS OF RECIPROCATING
SCREW IN INJECTION MOULDING MACHINE"**

is a bonafide record of a project carried out by

AKUTHOTA SHREYA - - 1602-20-736-034

in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (affiliated to Osmania University), Hyderabad during the academic year 2023-24 in partial fulfillment for the award of Degree in Bachelor of Mechanical Engineering.

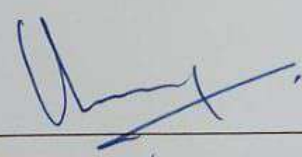


Mr. K. I. Spurgeon

Project Guide

Dept. of Mechanical Engg.

Assistant Professor
MECHANICAL ENGINEERING
VASAVI COLLEGE OF ENGINEERING
IBRAHIMBAGH, HYDERABAD-31.



Dr. T. Ramamohan Rao

Professor & HOD

Dept. of Mechanical Engg.

Dr T RAMAMOHAN RAO
Professor & HOD
Dept. Of Mechanical Engg
Vasavi College of Engg
Ibrahimbagh, Hyderabad-31

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
AFFILIATED TO OSMANIA UNIVERSITY
IBRAHIMBAGH, HYDERABAD.

CERTIFICATE

This is to certify that the project report entitled
"MODELING AND FABRICATION OF ROCKER BOGIE"
is a bonafide record of a project carried out by

SHAIK MOHAMMED ANEES - - 1602-20-736-031
SHAIK SUFIYAN FARAZ - - 1602-20-736-032

in the Department of Mechanical Engineering, Vasavi
College of Engineering (Autonomous) (affiliated to
Osmania University), Hyderabad during the
academic year 2023-24 in partial fulfillment for
the award of Degree in Bachelor of Mechanical
Engineering.



Dr. A. SRINIVAS RAO

Project Guide

Dept. of Mechanical Engg.

PROFESSOR
MECHANICAL ENGINEERING
VASAVI COLLEGE OF ENGINEERING
IBRAHIMBAGH, HYDERABAD - 31



Dr. T. Ramamohan Rao

Professor & HOD

Dept. of Mechanical Engg.

Dr T RAMAMOCHAN RAO
Professor & HOD
Dept. Of Mechanical Engg
Vasavi College of Engg
Ibrahimbagh, Hyderabad-31

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS) AFFILIATED
TO OSMANIA UNIVERSITY IBRAHIMBAGH, HYDERABAD

CERTIFICATE

This is to certify that the project report entitled "Off-Roading
Firefighting Robot" is a bonafide record of a project carried out by

Kammari Saketh
1602-20-736-030

K.V.S.S.S.R.B.Raju
1602-20-736-044

Likith Reddy
1602-20-736-049

in the Department of Mechanical Engineering, Vasavi
College of Engineering (Autonomous) (affiliated to Osmania
University), Hyderabad during the academic year 2023-24 in partial
fulfillment for the award of Degree in Bachelor of Mechanical
Engineering.



Dr. P.V Gopal Krishna

Associate Professor

Project Guide

Associate Professor
Mechanical Engineering Dept.
Vasavi College of Engineering
Hyderabad-500 031.



Dr. T. Ramamohan Rao

Professor & HOD

Department of Mechanical Engineering.

Dr T RAMAMOHAN RAO
Professor & HOD
Dept. Of Mechanical Engg
Vasavi College of Engg
Ibrahimbagh, Hyderabad-31

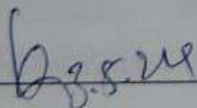
**VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
AFFILIATED TO OSMANIA UNIVERSITY IBRAHIMBAGH,
HYDERABAD**

CERTIFICATE

This is to certify that the project report entitled
"FABRICATION OF PIPE INSPECTION ROBOT" is a
bonafide record of a project carried out by

K.SAI RAM	1602-20-736-027
KAMANI VIGNESH	1602-20-736-045
MANUPADI SURESH	1602-20-736-303

in the Department of Mechanical Engineering, Vasavi
College of Engineering (Autonomous) (affiliated to
Osmania University), Hyderabad during the academic
year 2023-24 in partial fulfillment for the award of Degree
in Bachelor of Mechanical Engineering.



Mr. S. SREEKRISHNA

Project guide

Assistant Professor
MECHANICAL ENGINEERING

VASAVI COLLEGE OF ENGINEERING
IBRAHIMBAGH, HYDERABAD-31.



Dr. T. RAMMOHAN RAO

Professor & HOD

Department of Mechanical Engineering

Dr. T. RAMMOHAN RAO
Professor & HOD
Dept. Of Mechanical Engg
Vasavi College of Engg,
Ibrahimbagh, Hyderabad-31

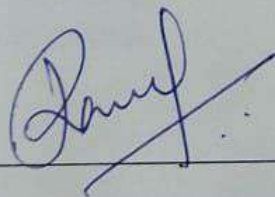
VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
AFFILIATED TO OSMANIA UNIVERSITY IBRAHIMBAGH,
HYDERABAD

CERTIFICATE

This is to certify that the project report entitled "DESIGN AND ANALYSIS OF TROUGHED IDLER IN INCLINED BELT CONVEYOR" is a bonafide record of a project carried out by

K.SAI CHAITANYA --- 1602-20-736-026
SADULA SOHITH SHANMUKH --- 1602-20-736-035

in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (affiliated to Osmania University), Hyderabad during the academic year 2020-24 in partial fulfillment for the award of Degree in Bachelor of Mechanical Engineering.



Dr. P. VENKATESWARA RAO
Associate Professor
Project Guide

Associate Professor
Mechanical Engineering Dept.
Vasavi College of Engineering
Hyderabad-500 031



Dr. T. Ramamohan Rao
Professor & HOD
Dept. of Mechanical Engg.

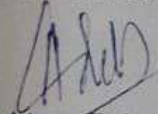
Dr T RAMAMOCHAN RAO
Professor & HOD
Dept. Of Mechanical Engg
Vasavi Collage of Engg
Ibrahimbagh, Hyderabad-31

TO WHOMSOEVER IT MAY CONCERN

CERTIFICATE

This is to certify that Mr. K. Sai Chaitanya of Vasavi College of Engineering pursuing B.E. (Mechanical) and bearing college Id No. 1602-20-736-026 has successfully completed an internship with M/s Avishkar Industries Private Limited, Hyderabad during the academic year 2023-24. The duration of the internship was from 18/01/2024 to 12/04/2024. During the period he has worked in Design, planning, Production, and Quality Control, Idlers unit and Structural fabrication unit.

For Avishkar Industries Private Limited



Ataur Rehman

General Manager & Co-ordinator



Date: 08/04/2024

Place: Hyderabad

Regd. Office :

Survey No. 42/A, Alinagar Hamlet, Chetlapotharam, Gaddapotharam Gram Panchayat, Jinnaram (M), Medak Dist. (502 319) Telangana, India.

Web : www.avishkarindustries.com Email : sanjaykabra@avishkarindustries.com

CIN : U29199TG1982PTC003494 GSTIN : 36AAICA7714J1ZH

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
AFFILIATED TO OSMANIA UNIVERSITY
IBRAHIMBAGH, HYDERABAD

CERTIFICATE

This is to certify that the project report entitled
"FRONTAL CRASH ANALYSIS ON A BUS BODY"
is a bonafide record of a project
carried out by

RATHNA SHANPAL 1602-20-736-024
B PREETHI SINGH 1602-20-736-305
B SRINIVAS KUMAR 1602-20-736-311

in the Department of Mechanical Engineering, Vasavi
College of Engineering (Autonomous) (affiliated to
Osmania University), Hyderabad during the academic
year 2023-24 in partial fulfillment for the award of
Degree in Bachelor of Mechanical Engineering.


Dr. K. KISHORE

Project Guide

PROFESSOR
MECHANICAL ENGINEERING
VASAVI COLLEGE OF ENGINEERING
IBRAHIMBAGH, HYDERABAD-31


Dr. T. Ramamohan Rao

Professor & HOD
Dept. of Mechanical Engineering

Dr T RAMAMOHAN RAO
Professor & HOD
Dept. Of Mechanical Engg
Vasavi College of Engg
Ibrahimbagh, Hyderabad-31



Telangana State Road Transport Corporation

Office of the

Sr. Manager (BBW & Stores)

Miyapur, Hyderabad-500050.

Dated : 12-04-2024.

C E R T I F I C A T E

This is to certify that, the internship work titled "**FRONTAL CRASH ANALYSIS ON A BUS BODY**" has completed at TSRTC, Bus Body Building Unit, Miyapur, Hyderabad by the students of Sri Vasavi Engineering College, Ibrahimbagh, Gandipet, Hyderabad, in partial fulfilment of the requirement for the award of B.E. in Mechanical Engineering during the academic batch 2020-2024, is a record of the bonafide work carried successfully, during the period from 25-01-2024 to 25-04-2024, as detailed below :

<i>Sl.</i>	<i>Name of the Candidate</i>	<i>Roll No</i>
1	<i>B.Srinivas Kumar</i>	1602-20-736-311
2	<i>Rathna Shanpal</i>	1602-20-736-024
3	<i>Bondhili Preethi Singh</i>	1602-20-736-305

Their attendance, conduct and performance during this internship period were excellent.


Senior Manager
(BBW & Stores) Miyapur

**VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
AFFILIATED TO OSMANIA UNIVERSITY
IBRAHIMBAGH, HYDERABAD**

CERTIFICATE

This is to certify that the project report entitled "DESIGN AND ANALYSIS OF SOLAR-POWERED WATER PURIFIER WITH SINGLE AXIS TRACKING SYSTEM" is a bonafide record of a project carried out by

S.GANGADHAR REDDY - - - 1602-20-736-072
P.SRIMAN - - - 1602-20-736-106
A.SUDHAMSH - - - 1602-20-736-107

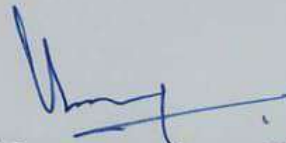
in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (affiliated to Osmania University), Hyderabad during the academic year 2023-24 in partial fulfillment for the award of Degree in Bachelor of Mechanical Engineering.



Dr. CH V K N S N Moorthy

Project Guide

PROFESSOR
MECHANICAL ENGINEERING
VASAVI COLLEGE OF ENGINEERING
IBRAHIMBAGH, HYDERABAD - 31



Dr. T. Ramamohan Rao

Professor & HOD
Dept. of Mechanical Engineering

Dr T RAMAMOHAN RAO
Professor & HOD
Dept. Of Mechanical Engg.
Vasavi College of Engg
Ibrahimbagh, Hyderabad-31

DEPARTMENT OF MECHANICAL ENGINEERING VASAVI
COLLEGE OF ENGINEERING (AUTONOMOUS)

(Affiliated to Osmania University, approved by AICTE and accredited by
NBA)



CERTIFICATE

This is to certify that the work in this dissertation entitled “**Design & Analysis of Heat Sink for Electronic Module**” submitted by **MAACHANA ANEESH** bearing Roll no **1602-20-736-063** has been read and approved for meeting during part of the requirements and regulations governing the award the degree of **Bachelors of Engineering in Mechanical Engineering** during academic year **2023–24** in the Department of Mechanical Engineering, Vasavi College of Engineering.

The work done in this dissertation has not been submitted to any other University/Institute for the award of any degree or diploma.

.....
Signature of Internal supervisor,
**Dr. K. Kishore, Professor &
Director (T & P)**
Department of Mechanical Engineering

Date: 03/05/2024

.....
Signature of Head of Department,
Dr. T Ramamohan Rao,
Professor & HOD,
Department of Mechanical Engineering

Date: 03/05/2024

PROFESSOR
MECHANICAL ENGINEERING
VASAVI COLLEGE OF ENGINEERING
IBRAHIMBAGH, HYDERABAD - 51

Dr T RAMAMOHAN RAO
Professor & HOD
Dept. Of Mechanical Engg
Vasavi College of Engg
Ibrahimbagh, Hyderabad-31

TO WHOM IT MAY CONCERN

This is to certify that the student Mr. Maachana Aneesh (Roll No.1602-20-736-063) of Vasavi College of Engineering – Hyderabad, is doing internship at Unistring Tech Solutions. His internship tenure was from 12th February 2024 to Present Date. He is working on “Design and Analysis of Heat Sink for Electronic Module”. He was actively and diligently involved in the project. During the period of his internship program with us he was punctual and hardworking. We wish a bright future.

For Unistring Tech Solutions Pvt Ltd

M. Vishnu Prasad
Dr. M. Vishnu Prasad,

Division Head, Strategic HR.



Registered office :

Plot No:2 & 3, Sy. No. 6, Rank One Ektha Towers
2nd Floor, Kondapur, Hyderabad,
Telangana, INDIA -500084.

Development Center:

D.No: 2-91/77/2/ST/11, Signature Towers (11th Floor),
Opp. Botanical Garden Rd, Venkat Enclave, Whitefields,
Kondapur, Hyderabad, Telangana, INDIA - 500084.

Date: 02-05-2024

To

The Head of the Department,
Department of Mechanical Engineering,
Vasavi College of Engineering (Affiliated to O.U)
Ibrahimbagh,
HYDERABAD.

Dear Sir,

This is to inform you that Mr. Maachana Aneesh, pursuing B.E. Mechanical Engineering bearing Roll No 1602-20-736-063, is working for his Bachelor's degree Program - Final Year Project in our organization as an intern for a period of 3 (Three) months starting from 12th February 2024 to Present Date.

The title of his project is "**Design and Analysis of Heat Sink for Electronic Module**".

His Project is a part of the IP of our organization. Hence all the details pertaining to the project cannot be revealed as a policy of the company.

Kindly oblige and accept the thesis.

Thanks & Regards

For Unistring Tech Solutions Pvt Ltd

M. Vishnu Prasad
Dr. M. Vishnu Prasad,

Division Head, Strategic HR.



VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
AFFILIATED TO OSMANIA UNIVERSITY
IBRAHIMBAGH, HYDERABAD

CERTIFICATE


This is to certify that the Theme based project report entitled "Automatic Bike Side Stand Slider" is a bonafide record of a Theme based project work carried out by

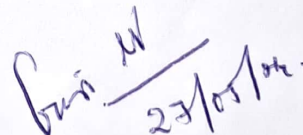
Syed Habeeb Ur Rehman --- 1602-21-736-055

A.Varunn --- 1602-21-736-056

N. Yashwanth Sai --- 1602-21-736-062

in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (Affiliated to Osmania University), Hyderabad during the academic year 2023-24.


Mr. K. Veladri
Project Guide


Dr. T. Ramamohan Rao
Professor & HOD
Dept. of Mechanical Engg.

MAY 2024

**VASAVI COLLEGE OF ENGINEERING
(AUTONOMOUS)**

**AFFILIATED TO OSMANIA UNIVERSITY
IBRAHIMBAGH, HYDERABAD**

CERTIFICATE

This is to certify that the Theme based project report entitled
“MOBILE OPERATED IRRIGATION SYSTEM” is a Bonafide record
of a Theme based project work carried out by

p. Vignesh Reddy --- 1602-21-736-059

N. Venkatmanideep --- 1602-21-736-058

O. Jyothiradithya nag --- 1602-21-736-057

In the Department of Mechanical Engineering, Vasavi College of
Engineering (Autonomous) (Affiliated to Osmania University),
Hyderabad during the academic year 2023-2024


Dr. J Anjaneyulu


Dr. T. Ramamohan rao

(Head, MED)



DEPARTMENT OF MECHANICAL ENGINEERING
VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
AFFILIATED TO OSMANIA UNIVERSITY
HYDERABAD
MAY 2024

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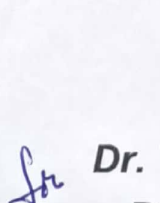
CERTIFICATE

This is to certify that the project report entitled "DESIGN AND FABRICATION OF PEST REPELLANT MACHINE USING ULTRASOUND AND PESTICIDE" is a bonafide record of a project carried out by

Dukkipati Shyam Jagadeesh	1602-21-736-304
B Vikas Kumar	1602-21-736-308
Kadavath Vijay Kumar	1602-21-736-061

in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (affiliated to Osmania University), Hyderabad during the academic year 2023-24 in partial fulfillment for the award of Degree in Bachelor of Mechanical Engineering.


Dr. J. Anjaneyulu
Project Guide


Dr. T. Ramamohan Rao
Professor & HOD
Dept. of Mechanical Engineering

**VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
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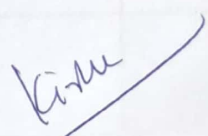
CERTIFICATE

This is to certify that the Theme based project report entitled "**DESIGNING & FABRICATION OF MINI PRESS DRILL MACHINE**" is a bonafide record of a Theme based project work carried out by

R.ROHITH CHARY --- 1602-21-736-301
M.RAVI TEJA --- 1602-21-736-307
K.SRIKANTH --- 1602-21-736-311

in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (Affiliated to Osmania University), Hyderabad during the academic year 2023-24.


Dr.P.VENKATESWARA RAO
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Dr. T. Ramamohan Rao
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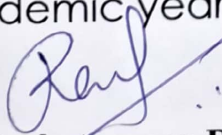
This is to certify that the Theme based project report entitled "**Energy Harvester from Speed Breakers**" is a bonafide record of a Theme based project work carried out by


Pittala Manohharr - - - 1602-21-736-302

Goundla Nithish Goud - - - 1602-21-736-310

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in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (Affiliated to Osmania University), Hyderabad during the academic year 2023-24.


Dr. P. Venkateswara Rao
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Dr. T. Rama Mohan Rao
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External Examiner

**VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
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CERTIFICATE

This is to certify that the Theme based project report entitled "Design and Fabrication of 8-Legged Spider Robot Using Jansen Linkage" is a bonafide record of a Theme based project work carried out by

Mullapudi Rahul Chakravarthy 1602-21-736-303
Vinjamuri Jyothi Prateek 1602-21-736-313

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B.N.Manohar

Mr. B. Naga Manohar
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Dr.

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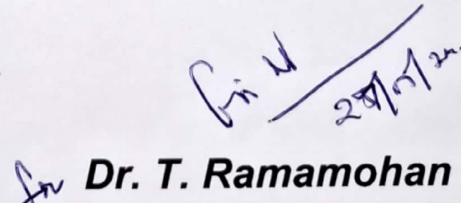
CERTIFICATE

This is to certify that the Theme based project report entitled "**Fabrication of Arduino Based Four Wheel Steering Mechanism**" is a bonafide record of a Theme based project work carried out by

N.PRANAVI	1602-21-736-305
M.SAI KUMAR	1602-21-736-306
M.PRANAY CHANDRA	1602-21-736-309

in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (Affiliated to Osmania University), Hyderabad during the academic year 2023-24.


Mr. Sandeep
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Dr. T. Ramamohan Rao
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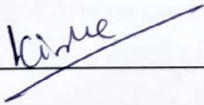
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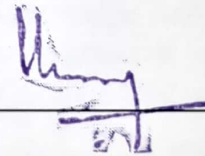
This is to certify that the Theme based project report entitled "**Autonomous Moisture Sensing Irrigation Robot**" is a bonafide record of a Theme based project work carried out by

Abhiram Yerram - - - 1602-21-736-002
V Hari Krishna Sai - - - 1602-21-736-014
Om Kadem - - - 1602-21-736-020

in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (Affiliated to Osmania University), Hyderabad during the academic year 2023-24.



**Dr. K. Kishore
Rao**
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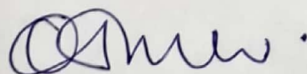
This is to certify that the Theme based project report entitled "MINI HYDRAULIC PRESS" is a bonafide record of a Theme based project work carried out by

Adil Ahmed - - - 1602-21-736-003

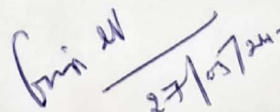
Khaja Mubashir Uddin - - - 1602-21-736-022

Mohammad Aiman Hussain - - - 1602-21-736-024

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KS Rao
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CERTIFICATE

This is to certify that the Theam Based project report entitled “Design And Fabrication Of Thermoelectric Power Generation system” is a bonafide record of a Theam Based project work carried out by

B. Aditya Singh ---(1602-21-736-004)

C .Jithender ---(1602-21-736-019)

D. Raj Reddy--- (1602-21-736-008)

in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (Affiliated to Osmania University), Hyderabad during the academic year 2023-24.



Dr. S. Venkataiah
Associate professor
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Dr. T. Ramamohan Rao
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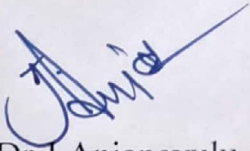
This is to certify that the Theme-based project report entitled "Fabrication and testing of multi-purpose agriculture machine integrated with various tools" is a bonafide record of theme-based project carried out by

V.Archana(1602-21-736-006)

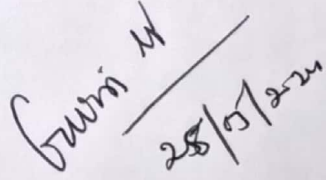
P.Avinash(1602-21-736-007)

G.Harini(1602-21-736-017)

In the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (Affiliated to Osmania University), Hyderabad during the academic year 2023-2024.


Dr.J.Anjaneyulu
Sr.Assistant
professor
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External Examiner


for Dr.T.Ramamohan Rao
Professor & HOD
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This is to certify that the Theme based project report entitled
“WAVE POWER GENERATION” is a bonafide record of a
Theme based project work carried out by

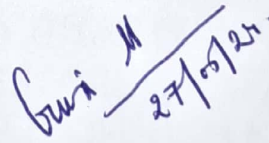
A.BHARGAVA	1602-21-736-009
S.HARSHA SREENATH	1602-21-736-018
B.MOHNISH KUMAR	1602-21-736-025

in the Department of Mechanical Engineering, Vasavi College of
Engineering (Autonomous) (Affiliated to Osmania University),
Hyderabad during the academic year 2023-24.



Mr.K.SRINIVASA RAO

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for

Dr.T.RAMAMOCHAN RAO

Professor & HOD
Dept. of Mech. Engg.

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CERTIFICATE

This is to certify that the Theme based project report entitled "**Development of a Braiding Machine**"
is a bonafide record of a Theme based project work carried out by

1 G. Daniel Mark :1602-21-736-011

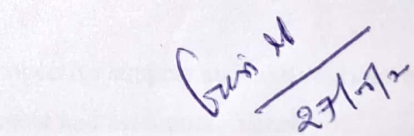
2 R. Harika :1602-21-736-016

3 M. Karthik :1602-21-736-021

in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous)
(Affiliated to Osmania University), Hyderabad during the academic year 2023-24.


Dr. Gayathri V M

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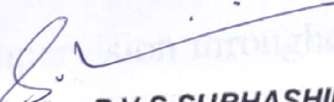
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
CERTIFICATE

This is to certify that the Theme based project report entitled
"Fabrication Of Movable Robotic Arm For Pick And Place Application" is a
bonafide record of a Theme based project work carried out
by

in the Department of Mechanical Engineering, Vasavi College
of Engineering (Autonomous) (Affiliated to Osmania University),
Hyderabad during the academic year 2023-24.

D. Hari Priya Sri Harshitha 1602-21-736-015
K. Mothilal 1602-21-736-026
B. Nagendar 1602-21-736-027


Dr./Mr./Mrs. P.V.S. SUBHASHINI
Project Guide

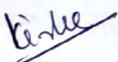

Dr. T. RAMAMOCHAN RAO
Professor & HOD
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CERTIFICATE

This is to certify that the Theme based project report entitled
"FABRICATION OF PNEUMATIC VICE" is a bonafide record of a
Theme based project work carried out by
BSai kumar 1602-21-736-043
BRamesh 1602-21-736-036

in the Department of Mechanical Engineering, Vasavi College of
Engineering (Autonomous) (Affiliated to Osmania University),
Hyderabad during the academic year 2023-24.


Dr. K. Kishore
Project Guide


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Professor & HOD
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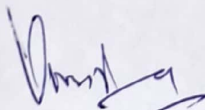
C E R T I F I C A T E

This is to certify that the Theme based project report entitled "**DESIGN AND FABRICATION OF BLUETOOTH GRASS CUTTING ROBOT**" is a bonafide record of a Theme based project work carried out by

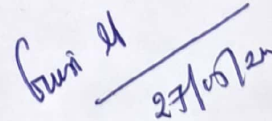
special thanks to the laboratory staff for their assistance and cooperation throughout our project.

- Their contribution and testing of our project we also motivate our peers
- 1.M.Raviteja - - - 1602-21-736-037
 - 2.B.srikar - - - 1602-21-736-041
 - 3.Sharath kalyan - - - 1602-21-736-050
 - 4.Nimay - - - 1602-21-736-028

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Dr.VBS.RAJENRA
prasad
project



for **Dr.T. Ramamohan Rao**
Professor & HOD
Dept. of Mechanical Engg.

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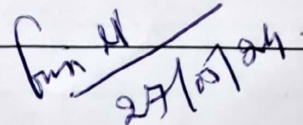
This is to certify that the Theme based project report entitled "**Working and Model of Desalination Harnessing Solar Power With UV and RO**" is a bonafide record of a Theme based project work carried out by

M.Setan Sai --- 1602-21-736-039
D.Rithwik --- 1602-21-736-040
G.Shashank --- 1602-21-736-051

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Dr. J. ANJANEYULU
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Dr. T. RAMAMOCHAN
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We extend our heartfelt gratitude to Dr. Shri S.V. Ramana, Principal of Vasavi College of Engineering, and Dr. Shri T Rammohan Rao, HOD of the Mechanical Department, for their unwavering support and

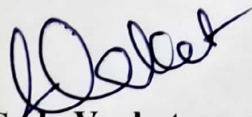
This is to certify that the Theme based project report entitled "Fabrication and Analysis of FarmMate : Integrated Plowing, Seeding and Irrigation Robot" is a bonafide record of a Theme based project work carried out by

is expertise and dedication significantly contributed to the project's success. His input and feedback greatly enriched our work and helped us overcome various challenges.

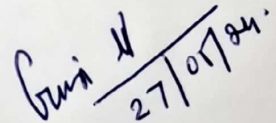
Samreeddhi Pani --- 1602-21-736-030
Sai Vybhav --- 1602-21-736-042
Thati Sri Karan --- 1602-21-736-053

A special note of appreciation is extended to those whose dedication and hard work inspire us. Without their tireless efforts, neither this project nor our lives would have taken their current form and experiences were instrumental in shaping the direction of our project. We hope that someday our project reaches all the

in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (Affiliated to Osmania University), Hyderabad during the academic year 2023-24.



Mr. Suda Venkateswarulu
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Dr. T. Ramamohan Rao
Professor & HOD

Dept. of Mechanical Engg.



Vasavi College of Engineering

Department of mechanical engineering

(AUTONOMOUS)



Affiliated to Osmania University

IBRAHIMBAGH, HYDERABAD-31

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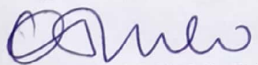
This is to certify that the Theme based project report entitled
"DESIGN AND FABRICATION OF MOTORIZED SCISSOR JACK" is a bonafide
record of a Theme based project work carried out by

Sam Joel. C (1602-21-736-044)


Sandeep Nayak. R (1602-21-736-046)

Sharandeep (1602-21-736-049)

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External Examiner


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Dept. mechanical ENGG

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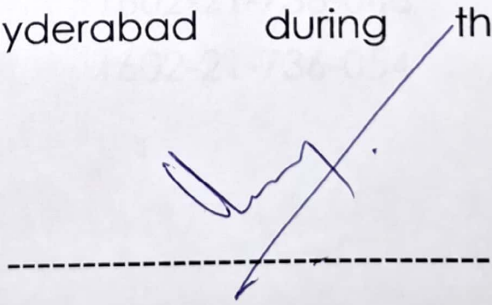
This is to certify that the Theme based project report entitled "Design and Fabrication of a Pick-and-Place Robot" is a bonafide record of a Theme based project work carried out by

Nethi Saraschandra	1602-21-736-047
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Suheera Syed Ahmed	1602-21-736-054

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**VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
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CERTIFICATE

This is to certify that the Theme based project report entitled “hydraulic pipe bending machine” is a bonafide record of a Theme based project work carried out by

in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (Affiliated to Osmania University), Hyderabad during the academic year 2023-24.

G. Rahul 1602-21-736-035

B. Sai 1602-21-736-038

K. Sandeep Chary 1602-21-736-045

M. Venugopal Reddy
M.VENUGOPAL REDDY

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Dr. T. Ramamohan RAO
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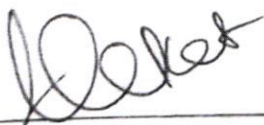
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This is to certify that the Theme based project report entitled "**SMART 360 DEGREE CONVEYOR BELT**" is a bonafide record of a Theme based project work carried out by

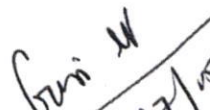
K Abhinav Yadav --- 1602-21-736-063
VVS Akash --- 1602-21-736-064
C Akshay Kumar --- 1602-21-736-067
Abhilash A Wood --- 1602-21-736-069

in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (Affiliated to Osmania University), Hyderabad during the academic year 2023-24.


28/6/2024



Mr. S. Venkateswarulu
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27/07/24.

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This is to certify that the Theme based project report entitled "Design and Fabrication of an RRR Configuration Arm" is a bonafide record of a Theme based project work carried out by



K.Meghana --- 1602-21-736-085
S.Harshini --- 1602-21-736-075
S.Akhil --- 1602-21-736-066
G.Jeevan --- 1602-21-736-078

in the Department of Mechanical Engineering, Vasavi College of Engineering (Autonomous) (Affiliated to Osmania University), Hyderabad during the academic year 2023-24.



Dr. V.B.S. Rajendra Prasad
Project Guide,
Dept. of Mechanical Engg.

Dr. T. Ramamohan Rao
28/05/2024

for Dr. T. Ramamohan Rao
Professor & HOD
Dept. of Mechanical Engg.

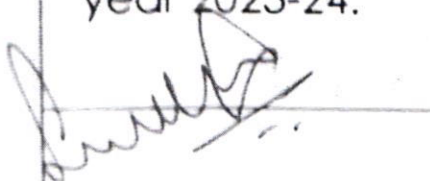
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IBRAHIMBAGH, HYDERABAD**

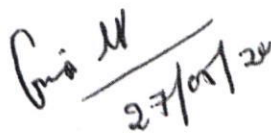
CERTIFICATE

This is to certify that the Theme based project report entitled "water trash collecting machine" is a bonafide record of a Theme based project work carried out by

B ANIL	1602-21-736-068
M BHANU KUMAR	1602-21-736-070
D DAYANAND	1602-21-736-072
J GANESH	1602-21-736-073
B JAIL SINGH	1602-21-736-077

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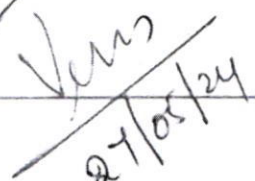
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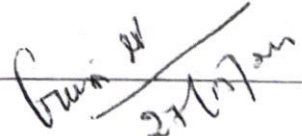
This is to certify that the Theme based project report entitled "*Bi-Directional Arduino Based Industrial Speed Controlled Conveyor Belt*" is a bonafide record of a Theme based project work carried out by

Kirthan Ashtekar	--- 1602-19-736-079
Harishwar Reddy	--- 1602-19-736-074
Manav Agarwal	--- 1602-19-736-083
K.Lokesh Reddy	--- 1602-21-736-080

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This is to certify that the Theme based project report entitled "*Omni-Directional Mecanum Wheel Vehicle*" is a Bonafede record of a Theme Based Project work carried out by

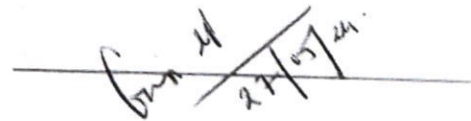
A.G. Sankalp	1602-21-736-105
B. Shyamsundar	1602-21-736-110
P. Sathwik	1602-21-736-108
R. Sai Sukriti	1602-21-736-101

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Mr. K. Veladri

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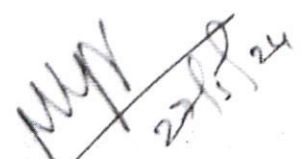
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This is to certify that the Theme based project report entitled
“**AURDUINO BASED FIRE-FIGHTER ROBOT**” is a bonafide record
of a Theme based project work carried out by

PVR SWAROOP THRUSHNA	-	1602-21-736-089
P.SAI SURYA KRISHNA TEJA	-	1602-21-736-102
K. SAI VENKAT TUSHAR	-	1602-21-736-103
K.SASHANK	-	1602-21-736-107

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This is to certify that the Theme based project report entitled "**Mini Belt Grinder**" is a bonafide record of a Theme based project work carried out by

V.Pavan - - - 1602-21-736-090
B.Rajesh - - - 1602-21-736-093
B.Sandeep - - - 1602-21-736-104

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27/05/24
Mr. J. Kantha Rao

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for

27/05/24
Dr. T. Ramamohan Rao

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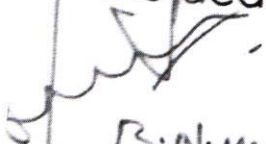
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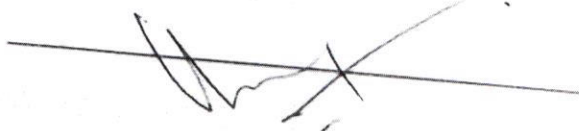
This is to certify that the Theme based project report entitled "*Live Human being detection Bluetooth controlled Robot*" is a bonafide record of a Theme based project work carried out by

S.M. Rohan --- 1602-21-736-317
CH.Aravind --- 1602-21-736-318
G.Deepika --- 1602-21-736-319

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B.N. Manohar

Mr. B. Naga manohar
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This is to certify that the Theme based project report entitled "Hand Gesture & Voice controlled robot" is a bonafide record of a Theme base

project work carried out by

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M. Tanuj (1602-21-736-113)

L. Shivanand (1602-21-736-315)

Md. Sameer (1602-21-736-316)

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Mr. B. Sandeep

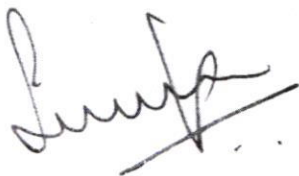
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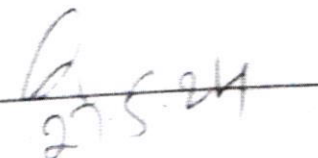
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CERTIFICATE

This is to certify that the Theme based project report entitled "Design and Fabrication of an RPP Configuration Arm" is a bonafide record of a Theme based project work carried out by

Y.Varun --- 1602-21-736-115
K.Vineet Kumar --- 1602-21-736-116
B.S.S.D Abhishek --- 1602-21-736-117

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This is to certify that the Theme based project report entitled "**Obstacle Avoidance of Car using Arduino**" is a bonafide record of a Theme base project work carried out by

A. Tharun (1602-21-736-314)

K. Deekshith (1602-21-736-320)

M. Tharun (1602-21-736-323)

D. Rajashekhar (1602-20-736-092)

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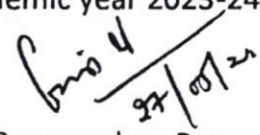
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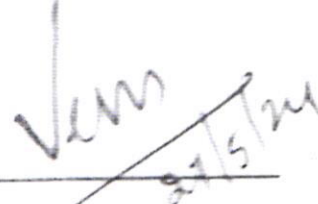
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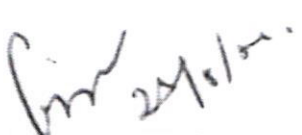
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This is to certify that the Theme based project report entitled "**ELECTRO MAGNETIC BRAKING SYSTEM**" is a bonafide record of a Theme based project work carried out by

SAI RADEEP M	1602-21-736-100
SINDHUJA CH	1602-21-736-111
RANADEEP K	1602-21-736-094

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Mr. M. Venu Gopal Reddy
Assistant Professor


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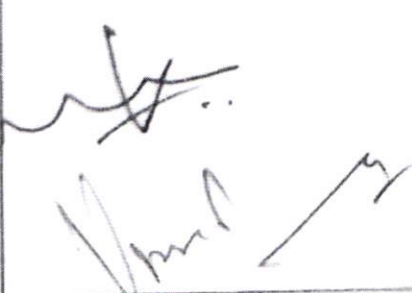
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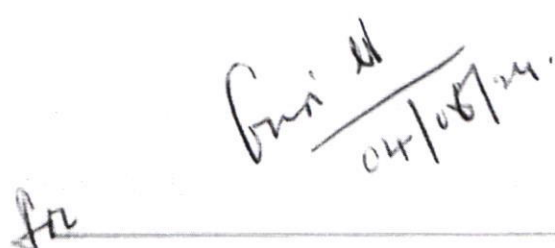
M.Dharanidhar 1602-21-736-321

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This is to certify that the Theme based project report entitled
“Remote Mobile Pick and Place Robot of
Cylindrical configuration (RPP)”
is a Bonafide record of a Theme Based Project work carried out by

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