CRITERIA-1-CURRICULAR ASPECTS

1.3 : Curriculum Enrichment

1.3.3 Percentage of students undertaking project work/field work/internship (Data for the latest completed academic year) (10)

Program name	Program Code	List of students undertaking project work/field work/internship	Page No
B.E. MECH	114	AAKASH K	9
B.E. MECH	114	ABDULLA BEE A	39
B.E. MECH	114	ALAN JACOB J	9
B.E. MECH	114	AMEER KAHAN A	26
B.E. MECH	114	ANIS RAM PRABU M	22
B.E. MECH	114	ARAVIND B	9
B.E. MECH	114	DHAYALAN M	35
B.E. MECH	114	DINESH M	35
B.E. MECH	114	GOKULNATH R	26
B.E. MECH	114	GOWTHAM G	35
B.E. MECH	114	GOWTHAM K	9
B.E. MECH	114	GOWTHAM L	22
B.E. MECH	114	HARIHARASUDHAN T	51
B.E. MECH	114	HARISH S	43
B.E. MECH	114	HIRICHARAN V N	43
B.E. MECH	114	IMRAN KHAN M	35
B.E. MECH	114	JEEVA V	18
B.E. MECH	114	JEGATHEESH K	116
B.E. MECH	114	JEYAPRAKASH P	43
B.E. MECH	114	KALIDAS P	18
B.E. MECH	114	KARTHIKEYAN K	26
B.E. MECH	114	KARTHIKEYAN V	56
B.E. MECH	114	KEERTHIVASAN R	43
B.E. MECH	114	KUMARASAN N	26
B.E. MECH	114	MAGARAJ PRASANNA S	18
B.E. MECH	114	MANIBHARATHI S	51
B.E. MECH	114	MANIKANDAN K	51
B.E. MECH	114	MANOJKUMAR S	18
B.E. MECH	114	MATHIVANAN N	39
B.E. MECH	114	MELVIN INFANT RAJ J	39
B.E. MECH	114	MOHAMED RIYAZ	51
B.E. MECH	114	MOHAMED JAVED N	31
B.E. MECH	114	MURALI MANOHAR A	31
B.E. MECH	114	ASHATHAMAN.R	56
B.E. MECH	114	DIWAKAR.R	56
B.E. MECH	114	HARISH KUMAR.A	31

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B.E. MECH	114	MUKILAN.R.A	39
B.E. MECH	114	MUTHUMANI.V	31
B.E. MECH	114	SABAREESWARANATH.N	22
B.E. MECH	114	SIVA PERUMAL.A	22
B.E. MECH	114	VASUDEVAN.V	56
B.E. MECH	114	MUTHUKUMAR.S	60
B.E. MECH	114	NAGASANTHOSH.N	60
B.E. MECH	114	MOHAN.P	64
B.E. MECH	114	NANTHAKUMAR.K	88
B.E. MECH	114	NARESHKUMAR.S	76
B.E. MECH	115	NAVEENKUMAR.M	64
B.E. MECH	114	NITHEESH KUMAR.G	80
B.E. MECH	114	NITHESHKUMAR.V	92
B.E. MECH	114	NITHISH.S.V.	68
B.E. MECH	114	PANDI.V	92
B.E. MECH	114	PAVEENKUMAR.P	76
B.E. MECH	114	PRAVEENKUMAR.S	84
B.E. MECH	114	PRAVEENPANDIAN.N	88
B.E. MECH	114	PREMKAVI.N	72
B.E. MECH	114	RAHUL.R	72
B.E. MECH	114	RAJA.V	76
B.E. MECH	114	RAMKUMAR.S	68
B.E. MECH	114	ROSHANKUMAR.A	68
B.E. MECH	114	RUTHRESH.S	96
B.E. MECH	114	SAMSUDEEN.A	96
B.E. MECH	114	SARAVANAKUMAR.R	64
B.E. MECH	114	SASI KUMAR.A	88
B.E. MECH	114	SATHISH KUMAR.S	72
B.E. MECH	114	SAVARIRAJ.S	84
B.E. MECH	114	SELVARAJ.V	60
B.E. MECH	114	SHEIK BARITH.S	68
B.E. MECH	114	SHEIK ZAHID.S	96
B.E. MECH	114	SIVANESAN.K	96
B.E. MECH	114	SURENDARNATH.P	80
B.E. MECH	114	SURYA.T	60
B.E. MECH	114	SURYAPRAKASH.A	84
B.E. MECH	114	TAMILARASAN.M	80
B.E. MECH	114	VIGNESH.K	76
B.E. MECH	114	VIGNESHKUMAR.M	84
B.E. MECH	114	VISHNUGIRI.K	88
B.E. MECH	114	YUGAPRASATH.S	92
B.E. MECH	114	VELUPREM.A	80
B.E. MECH	114	DINESH PANDI.C	64
B.E. MECH	114	NIKESH KUMAR.R	72
B.E. MECH	114	PAU JACOB KIRUBAKARAN. R	92
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B.E. MECH	114	BHUVANESWARAN C	100
B.E. MECH	114	DINESH KUMAR S	146
B.E. MECH	114	HARISH J	100
B.E. MECH	114	JOTHIVEL M	160
B.E. MECH	114	MANOJKUMAR R	146
B.E. MECH	114	NAVEEN PRAKASH R	153
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B.E. MECH	114	PRAVEEN RAJ S	146
B.E. MECH	114	SABARI NATHAN T	153
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B.E. MECH	114	SRIRAM S	160
B.E. MECH	114	SRIVEL A	105
B.E. MECH	114	SURYA VISWA M	160
B.E. MECH	114	SURYA D	153
B.E. MECH	114	SYED AKMAL M	105
B.E. MECH	114	VELMURUGAN P	100
B.E. MECH	114	VINITH KUMAR A	160
B.E. MECH	114	VISHVA G	100
B.E. MECH	114	ATHITHYAN B	179
B.E. MECH	114	JEEVAKALIDAS S	105
B.E. MECH	114	GOWTHAM KUMAR M	179
B.E. MECH	114	MANIKANDAN K	179
B.E. MECH	114	GOWTHAMAN M	128
B.E. MECH	114	MOHANA ROHUL P	128
B.E. MECH	114	RAMAKRISHNAN B	128
B.E. MECH	114	SANGARAN S	128
B.E. MECH	114	MAHA LAKSHMI G	134
B.E. MECH	114	NAGARAJ S	134
B.E. MECH	114	RAGHULPANDIAN B	134
B.E. MECH	114	SHOBANA K	134
B.E. MECH	114	RAKESH S	134
B.E. MECH	114	MEENAKSHI SUNDARAM G	140
B.E. MECH	114	MURUGESHWARAN N	140
B.E. MECH	114	RAKESH M	140
B.E. MECH	114	RAMKUMAR A	140
B.E. MECH	114	SHARRIF AHAMED S	140
B.E. MECH	114	RITHESH KUMAR G	160
B.E. MECH	114	BALAMURUGESAN S	167

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B.E. MECH	114	MANIKANDAN R	167
B.E. MECH	114	NAVEEN RAJ K	167
B.E. MECH	114	SARAVANA KUMAR M	167
B.E. MECH	114	VEL PACKIYA RAJ	167

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DEPARTMENT OF MECHANICAL ENGINEERING

ANNA UNIVERSITY PRACTICAL EXAMINATION -APRIL/MAY-2021

ME8811- PROJECTWORK SCHEDULE

VENUE/MODE: Google meet link: https://meet.google.com/von-ycjb-vxv

BATCH. NO	DATE	TIME	REGISTER NUMBER	STUDENT NAME	PROJECT GUIDE	PROJECT TITLE
1	30-07-2021 FN	9.30 AM-10.00AM	920817114001 920817114007 920817114011 920817114022	K. Aakash J. Alan Jacob B. Aravind K. Gowtham	Mr. T. Bala subramani AP/MECH	Fabrication of walking chair using the JANSEN Mechanism
2	30-07-2021 FN	10.00 AM-10.30AM	920817114031 920817114034 920817114043 920817114040	V. Jeeva P. Kalidas S. Manoj Kumar S.Magaraj Prasanna	Dr. T. Malaisamy HOD/MECH	Drag analysis and comparison of different sports ball
3	30-07-2021 FN	10.30 AM-11.00AM	920817114308 920817114010 920817114023 920817114309	N. Sabarishwaranath M. Anis ram prabhu L. Gowtham Shivaperumal	Dr.S.Paulsingarayar, AP/Mech	Fault Detection and Rectification in Tunnels using Teleoperated Robot
4	30-07-2021 FN	11.00 AM - 11.30 AM	920817114008 920817114038 920817114020 920817114035	A. Ameer khan N. Kumaresan R. Gokul Nath K. Karthikeyan	Mr. M. Mathan Raj AP/MECH	Obstacle Sensing vehicle using RF controller.

5	30-07-2021 FN	11.30 AM-12.00 PM	920817114303 920817114048 920817114307 920817114049	A. Harish Kumar N. Mohammed Javed V. Muthumani V. Murali Manogaran	Dr.S.Paulsingarayar, AP/Mech	Automatic bending and cutting using by hydraulic.
6	30-07-2021 FN	12.00 PM - 12.30 PM	920817114046 920817114012 920817114032 920816114702	T. Mohammed azeez J. Aravindhan Jagadhesh Saravana Bava	Mr. T. Bala subramani AP/MECH	Voice controlled wheel chair.
7	30-07-2021 AN	1.30 PM - 2.00 PM	920817114021 920817114018 920817114029 920817114017	G. Gowtham M. Dinesh M. Imran khan M. Dhayalan	Mr. S. Suresh kumar AP/MECH	Experimental investigation of dissimilar metal joining process by using tungsten inert gas welding.
8	30-07-2021 AN	2.00 PM - 2.30 PM	920817114002 920817114044 920817114045 920817114306	A. Abdulla bee N. Mathivanan J. Melvin infant raj R.A. Mukilan	Mr.B. Deepan AP/MECH	Design of semi-Automatic Seed sowing robot by using solar pannel
9	30-07-2021 AN	2.30 PM - 3.00 PM	920817114025 920817114038 920817114033 920817114028	S. Harish R. Keerthivasan P. Jaya Prakash V.N. Hiricharan	Mr. M. Mathan Raj AP/MECH	Design and optimization of Extruder head in fused deposit modelling
10	30-07-2021 AN	3.00 PM-3.30 PM	920817114024 920817114041 920817114042 920817114047	T. Harihara Sudhan S. Mani bharathi K. Manikandan A. Mohamed riyas	Mr. G. Sundharajan AP/MECH	Multi-Purpose Agriculture vehicle
11	30-07-2021 AN	3.30 PM - 4.00 PM	920817114301 920817114302 920817114310 920817114036	R. Ashwathaman R. Dhiwakar V. Vasudevan V. Karthikeyan	Mr. S. Suresh Kumar AP/MECH	Mechanical properties of alkali treated magifera indica,tamarindus indica and morinda citrifolia reinforced polymer composite.
12	31.07.2021 FN	9.30 AM-10.00AM	920817114051 920817114053 920817114088 920817114082	Muthukumar S Naga Santhosh N Surya T Selvaraj V	Mr.M.MathanRaj AP-Mech	Fabrication of Portable thermoelectric refrigerator
13			920817114068	Rahul R	Mr.G.Sundararajan	Fabrication of Pneumatic

	31.07.2021 FN	10.00 AM- 10.30AM	920817114066 920817114501 920817114080	Prem Kavi N Nikesh Kumar Sathish Kumar S	AP-Mech	breaking system
14	31.07.2021 FN	10.30 AM- 11.00AM	920817114068 920817114066 920817114501 920817114080	Naveen Kumar M Saravanakumar R Mohan.P Dinesh pandi.C	Mr.M.MathanRaj AP-Mech	Mechanical Properties of juliflora and maize fiber reinforced composite polyester resin
15	31.07.2021 FN	11.00 AM- 11.30AM	920817114071 920817114059 920817114073 920817114083	Ramkumar S Nithish S V Roshan Kumar A Sheik Barith S	Mr.B.Deepan AP-Mech	Pneumatic Vehicle
16	31.07.2021 FN	11.30 AM- 12.00 PM	920817114055 920817114070 920817114063 920817114095	Naresh Kumar S Raja V Praveenkumar.P Vignesh K	Mr.S.Suresh Kumar AP-Mech	A fully portable robot system for cleaning solar panels
17	31.07.2021 FN	12.00 PM- 12.30 PM	920817114057 920817114087 920817114090 920817114311	Nitheesh Kumar G Surendarnath P Tamilarasan.M Velu prem A	Dr.T.Malaichamy AP-Mech	Mechanical propertices of eggshell powder tamarind seed and banana fibre composite
18	31.07.2021 AN	1.30 PM – 2.00 PM	920817114081 920817114089 920817114096 920817114064	Savariraj S Surya Prakash A Vignesh Kumar M Praveen Kumar S	Mr.S.Suresh Kumar AP-Mech	Smart E-Bike
19	31.07.2021 AN	2.00 PM – 2.30 PM	920817114054 920817114065 920817114079 920817114100	Nanthakumar K Praveen Pandian N Sasi Kumar A Vishnu Giri K	Mr.T.Balasubramani AP-Mech	Comparative And Mechanical Behaviour Analysis Of Dissimilae Friction Stir Welded With Various Tool Profile
20	31.07.2021 AN	2.30 PM – 3.00 PM	920817114060 920817114058 920817114101 920817114702	Pandi V Nithesh Kumar V Yuga Prasath S Paul Jacob Kirubakaran	Mr.T.Balasubramani AP-Mech	Solor wood cutting machine
21	31.07.2021		920817114084 920817114074	Sheik Zahid .S S.Ruthresh	Dr.S.Paulsingarayar AP-Mech	Semi automatic predator sensing vehicle

	AN	3.00 PM – 3.30 PM	920817114085 920817114075	K.Sivanesan A.Samsudeen		

Project Coordinator

HOD/MECH

DESIGN AND FABRICATION OF A WALKING CHAIR USING THEO JANSEN MECHANISM

A PROJECT REPORT

Submitted by

K. AAKASH	**920817114001**
J. ALAN JACOB	**920817114007**
B. ARAVIND	**920817114011**
K. GOWTHAM	**920817114022**

In partial fulfilment for the award of the degree

of

BACHELOR OF ENGINEERING

In

MECHANICAL ENGINEERING

NPR COLLEGE OF ENGINEERING & TECHNOLOGY,

DINDIGUL-624 401

ANNA UNIVERSITY:: CHENNAI 600 025

April 2021

ANNA UNIVESITY:: CHENNAI 600 025

BONAFIDE CERTIFICATE

Certified that this project report **"DESIGN AND FABRICATION OF A WALKING CHAIR USING THEO JANSEN MECHANISM"** is the bonafide work **K. AAKASH (920817114001), J. ALAN JACOB (920817114007) B. ARAVIND (920817114011), K. GOWTHAM (920817114022),** who carried out the project under my supervision. Certified further that to the best of my knowledge the work reported herein does not form part of any other thesis or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

SIGNATURE

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HEAD OF DEPARTMENT

Department of Mechanical Engineering,

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Mr. T. BALASUBRAMANI , M.E.,

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Department of Mechanical Engineering,

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Submitted to the VIVA-VOCE examination held on 30.7.21.

INTERNAL EXAMINER

EXTERNAL EXAMINER

ABSTRACT

A machine is designed with the intentions of exploiting the advantages of the alking motion over the traditional rolling motion. Over the years people with omotive disability have struggled to live a life of independency, many ideas were eveloped to kill the dependency but those ideas were lost either in research or the eavy expenses doomed them. For a country like India, whose majority of the ovement disabled population resides in the rural areas, it is very important to develop nd alternative to their woes at very minimal cost. The answer to this was sought in he development of the walking chair. The project is intended to develop a chair that an be used on varied terrain and that can overcome small obstacles at the price of most basic wheelchair available in India. This idea utilizes a parent idea of Theo Jansen, a Dutch physicist who invented a mechanism for the leg like motion of a system and called it the Jansen linkage. Now using these linkages we intend to build a chair that is propelled by motor using a mechanism in order to make it cost effective. Hence to sum up in a line our project changes the history of 8000 years in locomotion technology keeping in mind the social need for a change.

Keywords : Walking motion, disability, Theo Jansen

CHAPTER 9

CONCLUSION

The literature collected provides us with an idea of the various application possibilities based on the Theo Jansen mechanism. Most of the literature collected provide us with a hint that most of the applications described are still in a proposal or prototype level and have not yet been mass produced. The literature collected is based on the internet database and no case study is involved which investigates the usage of the mechanism in practical life. Design and fabrication of the walking mechanism done in prototype with two different materials and size in small with acrylic and larger scale with metal results shows it could be helpful for the disabled persons living in the rural areas of our country.

From the above results it can be seen the objective are achieved which are required for the smooth running of the walking mechanism. The following conclusions can be drawn from the designed mechanism:

- Ability to avoid obstacles by stepping over them because of the path followed by the leg toe and heel.
- Because of the more taking time in support phase and there will be four legs will be in contact with ground it can be statically stable during entire locomotive cycle Toe and Heel
- Durable joints/hinges/moving parts which will not become blocked by debris over time
- It can made with inexpensive materials like plastic components
- It utilizes less power for movement of legs compared to traditional system i.e wheels on the uneven surfaces, steps climbing, rock or hill areas therefore it is energy efficient.
- No control mechanism necessary for movement like hydraulic systems and control systems etc.

Hence to sum up in a line our project changes the history of 8000 years in locomotion technology keeping in mind the social need for a change. Also, there is high potential for development of other applications like bomb disposal, security surveillance, spy operations, exploration, pitch marking, stair climbing, moving furniture, etc based on this mechanism in future. In future we have to use this robot to perform different type of operations automatically by using sensors.

Dr. J.SUNDARARAJAN,
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DRAG ANALYSIS AND COMPARISION FOR DIFFERENT SPORTS BALL

A PROJECT REPORT

Submitted by

JEEVA V **(Reg.No. 920817114031)**

KALIDAS P **(Reg.No. 920817114034)**

MAGARAJ PRASANNA S **(Reg.No. 920817114040)**

MANOJ KUMAR S **(Reg.No. 920817114043)**

in partial fulfilment for the award of the degree

of

BACHELOR OF ENGINEERING

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ANNA UNIVERSITY: CHENNAI 600 025

April 2021

ANNA UNIVESITY: CHENNAI 600 025

BONAFIDE CERTIFICATE

Certified that this project report **"DRAG ANALYSIS AND COMPARISION FOR DIFFERENT SPORTS BALL"** is the Bonafide work of **V JEEVA (920817114031), P KALIDAS (920817114034), S MAGARAJ PRASANNA (920817114040), and S MANOJ KUMAR (920817114043)** who carried out the project under my supervision.

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Submitted to the VIVA-VOCE examination held on 30/7/21

INTERNAL EXAMINER

EXTERNAL EXAMINER

ABSTRACT

Drag is resistance force occurred, when a body is traveling in a fluid medium(AIR), due to the shape and size of the body. At speeds less than about 1 m/s, the drag force on sphere is proportional to the speed and is given by Stokes 'law. At higher speeds, the drag force is proportional to the velocity squared and is usually small compared with the gravitational force if the object mass is large and its speed is low. The effect of the drag force can also be increased by increasing the surface area of the object. In this project, a relationship between the drag coefficient in terms of height of the ball falling towards the ground and the time taken by the ball to reach the ground is derived mathematically. An experimental setup was fabricated to hold and release the ball and detect the ball when it touches the ground by using suitable sensors. The output of the setup gives the time taken by the ball to reach the ground. The flow of air is simulated for different sports ball by using computational fluid dynamics (CFD) to calculate the drag forces occurred when the ball is travelling in the air.

CHAPTER 8

CONCLUSION

We had done an experimental setup to calculate the drag force on different sports ball. The drag force is a resistance force caused by the motion of a body through a fluid such as water or air. We made a ball holder to hold the ball for measuring the velocity of free falling ball. The IR sensor and the sound sensor is used to detect the ball to start and stop the timer. Once the ball holder releases the ball the Arduino circuit that has been made to calculate the time taken by the ball to fall on the ground. The IR sensor detects the ball when it is released and the timer is started. Then the sound sensor detects the ball by the sound made by the ball once it touches the ground and the timer is stopped. The time taken by the ball is measured and it is used to calculate the velocity of the ball. By this velocity we can calculate the drag force by using CFD analysis. The terminal velocity of the free falling ball is calculated and a relationship is derived to calculate the velocity at any time instance. Drag coefficient values are determined experimentally using larger wind tunnels at various Reynolds number, but in our project we derive a relation between drag coefficient in terms of some constant value, which is a function of position and time. Hence the drag coefficient values are determined by calculating the falling time and travelling distance. These values are substituted in that equation to get the drag coefficient, the results obtained are checked and closely matches the values analysed using ANSYS WORKBENCH. In experimental setup, the sensors play the most vital role. The accuracy of the response time of the sensors affect the results. Use of piezoelectric sensors for deducting the falling balls will actually give more accurate results instead of using proximity IR sensor.

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Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

Fault detection and rectification in tunnels using tele operated robot

A PROJECT REPORT

Submitted

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M.ANIS RAM PRABU	**920817114010**
A.SIVAPERUMAL	**920817114309**
N.SABAREESWARNATH	**920817114308**

In partial fulfillment for the award of the degree

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ANNA UNIVERSITY: CHENNAI 600 025

April 2021

BONAFIDE CERTIFICATE

Certified that this project report"**Fault detection and rectification in tunnels using tele operated robot**" is the bonafide work of **L.GOWTHAM(920817114023), M.ANIS RAMPRABU(920817114010),A.SARBAREESWARNATH(920817114309),N.SABAREESWARNATH(920817114308)**who carried out the project under my supervision.

SIGNATURE

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Dindigul - 624 401

Submitted to the VIVA-VOCE examination held on....30/7/21....

INTERNAL EXAMINER

EXTERNAL EXAMINER

ABSTRACT

In the future, it will become more common for humans to team up with robotic systems to perform tasks that humans cannot realistically accomplish alone. Even for autonomous and semiautonomous systems, Teleoperation will be an important default mode and a challenging task, because the operator is remotely located. As a result, the operator's situation awareness of the remote environment can be compromised and the mission effectiveness can suffer. This project presents a detailed examination human performance issues and suggested mitigation solutions. This work was motivated by the accidents in recent years that were caused by falling parts of the inner wall of concrete tunnels. This brought about serious damage to national property, In this method, we aim to inspect the tunnel manually and completely at high speed by using Manipulators to inspect the tunnel online in the dangerous environment. Usually, the cable tunnel is full of poisonous gases after fire, such as CO, CH4, and CO2 and so on. Then, the mobile robot is able to tell us whether the tunnel environment is safe or not then the architecture of the robot is designed at first to meet the motion requirement in the tunnel. These characteristics distinguish the mobile robot from others like compact structure, small size, little weight and easily being carried.

CHAPTER 7
CONCLUSION

The project is aimed at providing human safety for the rescue team in hazardous environments such as coal mines .This is a prototype which can be implemented in real time by using components with better range and efficiency. This robot enters into hazardous environments and provides data like the live view of what happened inside the tunnel which the rescue team will be sent with necessary precautionary measures in order to make sure that the rescue team does not come to any harm.. In future this can be developed by the use of higher transmission range transceivers so that it can travel for a greater distance and can be used in different environments based on the transmission range. Development can also be made in the number of sensors incorporated in the robot. Implantation of an arm on the robot can help the robot pick up samples or remove small debris from path or open or close any doors if needed inside the mine. The Counter Tunnel project has focused on developing solutions to traverse, characterize, and map a tunnel-like environment. The main control problem in Teleoperated systems is the instability induced by the communication time-delay and incomplete information on both sides (master and slave). Unfortunately, these type of devices are too expensive and are only used in simulators and not in teleoperation systems. Some other aspects belong to the sociology such as the interaction between the human and the machine. The current systems do not provide the same dexterity that a human has.

OBSTACLE SENSING VEHICLE USING RF CONTROL

A PROJECT REPORT

Submittedby

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INTERNAL EXAMINER

EXTERNAL EXAMINER

OBSTACLE SENSING VEHICLE USING RF CONTROL

ABSTRACT

stly people prefer using cars and four wheelers for efficient transportation. Vehicle :hnology is increasing to a wide extent especially in braking systems and sensing systems. hicles equipped with modern braking technology is designed with simple collision avoidance tem. which will help to detect a collision which is likely to occur and applying emergency ke to avoid it. Such technologies will reduce the number of accidents which causes worst nages. serious injury, and even death. In this automatic braking system, there is a four-wheel t in which rare wheels are being motorized for drive wheel. FRONT wheels have been oted for staring mechanisms. New friction brakes are designed for emergency braking. The kes are operated by motorized mechanism, which is spring-loaded. The drive of the car is iote operated. Two sensors are used for front and rare for avoiding damage to the car at the e of parking. The sensors used are a capacitive type which can sense both Metal and non-tal obstacles. Also, two relays are used after the sensors which activate the braking motor en obstacles are sensed either in forward or reverse direction.

CHAPTER 7
COCLUSION

has been developed by integrating features of all the hardware components used. esence of every module has been reasoned out and placed carefully thus ntributing to the best working of the unit. Thus the data to be sent is encoded thin the transmitted signal so that a well designed receiver can separate the data)m the signal upon reception of this signal. The decoded data can then be used to rform specified tasks. Secondly, using highly advanced IC"s and with the help of owing technology the project has been successfully implemented. A low-cost and mple system to ensure the safety of passengers and pedestrians. It certainly provides hope for bringing down the alarming rate of road accidents. The proposed system is ıpable of simply displaying the traffic signals in an LCD screen inside the vehicle. ı future, provisions may be included to cut out the fuel supply to the engine to rovide a smooth deceleration if the speed of the vehicle exceeds a threshold value. his is a very useful technique to control the vehicle speed automatically. By using ficrocontroller , we Controlled the

ed of the vehicle according to zones It is mainly useful in the areas where high rate

cidents are recorded. As in city traffic control to conserve the fuel and

ıplement the traffic rules. It presents architecture for automatic adaptation of the ;itudinal speed control of a vehicle to the circumstances of the road which can help lecrease one of the major causes of fatalities: the excessive or inadequate vehicle d. Our approach is based on a combination of three different sensor technologies: D tagging of traffic signals to convey their information to the car,. Sensor fusion is lied to the information received by these subsystems, and used to adjust the gitudinal speed of the vehicle with a fuzzy controller. The proposed on-board hitecture is portable and easily adaptable to any commercial car with minimal difications. The system shows promising results, since active RFID technology mits to detect the presence and identity of the traffic signals reliably and sufficiently

advance, so corrective actions on the vehicle"s behaviour can be taken. In the pirical trials in our installations, the vehicle"s speed was successfully changed as a sult of the detection of the signals, increasing the driver"s safety. The technology veloped can assist human drivers in difficult road circumstances, as well as a mplement ISA or CWS systems if the car is already equipped with them. In our periments, only the test vehicle was present on the road. In normal driving situations, e can expect other vehicles circulating nearby and possibly blocking or attenuating me of the RFID transmitting signals, especially with large vehicles like trucks. In this pect, more experimentation is needed to know how this circumstance will affect the hicle"s control performance. A possible solution is the use of redundant RFID tags ince their cost relatively low), placed at different locations near the traffic signal, to arantee RF signal reception in unfavourable conditions. The results suggest that an tomatic intelligent speed control system can be used to prevent any unexpected traffic rcumstance and improve the safety of the occupants of the vehicle.

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DESIGN AND FABRICATION OF AUTOMATIC BENDING AND CUTTING BY USING HYDRAULIC

A PROJECT REPORT

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INTERNALEXAMINER

EXTERNALEXAMINER

CHAPTER 1

ABSTRACT

A Easy Metal Bending and Cutting is a device which enables the single persons to operate it alone and cut and bend the All types of Metals from the jack driving shaft in the industries and products. Heavy work is needed to operate the bending and cutting process in the metal work industries. It can widely used. It is easy to fit on the driving shaft and bending and cutting. It is need not necessity of work place for setting the bend and cut. This can be effectively used for metal bending and cutting for such as metal box and metal parts etc.

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CHAPTER 16

CONCLUSION

We the students took the initiative in doing this project work "**DESIGN AND FABRICATION OF AUTOMATIC BENDING AND CUTTING USING HYDRAULIC** " to the peak of success .During the course of action of our project work , we have gained sufficient technical as well as practical knowledge as how a machine is to be designed, fabricated and priced .

This machine was fabricated successfully and tested. It works satisfactorily. We hope that this will be one among the most versatile and interchangeable even in future.

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EXPERIMENTAL INVESTIGATION OF DISSMILAR METAL JOINING PROCESS BY USING TUNGSTEN INERT GAS WELDING

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ABSTRACT:

Austenitic stainless steel 316L and E250BR Mild steel are welded by tungsten inert gas welding with thicker welded zone and the micro structure of tungsten inert gas welding is important an welding strength. The main role of this project is to study the micro structure, micro hardness, tensile test and mechanical properties of welded zone and heat affected area if change in mechanical property are mentioned below.

CONCLUSION

- In this study investigates the optimization of tungsten inert gas welding process parameters through Response Surface Methodology (RSM) tungsten inert gas welding process parameters like, welding speed and shielding gas flow rate on the maximum tensile strength of dissimilar metal joints were determined in this parametric study. The maximum ultimate tensile strength 478.02 MPa obtained by the conditions shielding gas flow rate (15 lit/min) and welding speed (2.5 m/min). A conformation experiment was also conducted in order to validate the optimal process parameters values. The developed relationship can be effectively used to predict the tensile strength of tungsten inert gas welded joints at 95% confidence level. The dissimilar weld zone consisting columnar dendrites along with few amount chromium carbides.

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SEMI-AUTOMATIC SEED SOWING ROBOT BY USING SOLAR PANAL

A PROJECT REPORT

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INTERNAL EXAMINER

EXTERNAL EXAMINER

FABRICATION OF SEMI AUTOMATIC SEED SOWING ROBOT BY USING SOLAR PANAL

ABSTRACT

Sowing is the most important process in farming. It is a very tiring and time
ısuming process that requires a lot of human effort. Here we propose the design
l fabrication of a semi automatic solar power seed sowing robot that automates
; task. The proposed robot uses motors for running it in desired directions. We use
mall bracket for pouring seeds. The robot consists of a funnel like arrangement in
ler to pour seeds into a lower container. There we use a shaft with gear like bucket
th to pick up limited quantity of seeds and pour them on the ground in a steady
nner in proper quantity. The front of the robot consists of a bent plate that drags
the soil to make a slot ahead of the machine before seeds are poured in it. The
:k portion of the robot consists of a tail like bent rod that is again used to pour soil
seeds sowed thus covering them with soil. Thus the system semi automated to
erate.

CHAPTER 10

CONCLUTION

Innovative Seed sowing equipment is has remarkable influence in riculture. By using this innovative project of seed sowing equipment we can save ore time required for sowing process and also it reduces lot of laborer cost. It is ry helpful for small scale formers. After comparing the different method of seed wing and limitations of the existing machine, it is concluded that the this solar wered seed sowing machine can

- Maintain row spacing and controls seed rate.
- Control the seed depth and proper utilization of seeds can be done with less loss.
- Perform the various simultaneous operations and hence saves labour requirementso as labour cost, labour time and also save lots of energy.

Hence it is easily affordable by farmers. So we feel that this project serves mething good to this world and we would like to present it before this prosperous rld.

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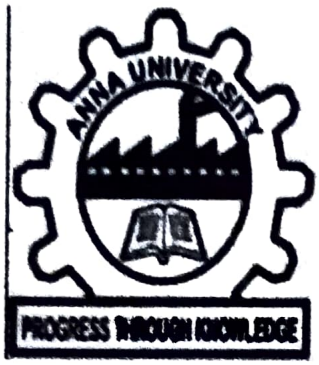

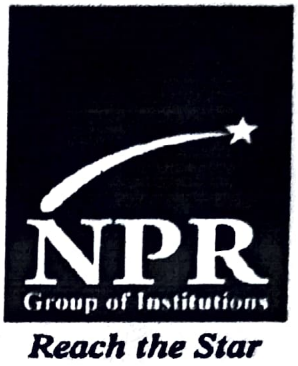

Design And Optomization Of Extruder Head In Fused Deposit Modelling (FDM) Machine

A PROJECT REPORT

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uring this period his attendance & attitude was found to be good.

e wish him all success in his future endeavors.

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MPLETE CAD/ CAM / CAE SOLUTION

ABSTRACT

The Project is Researched and Developed about the " **Design And Optimization Of Extruder Head In Fused Deposit Modelling (FDM) Machine** " so the project basically explains about the problems occurring in the Existing Extruder Head Of The Fused Deposit Modelling (FDM) Machine, such as Over Heating of the Extruder of Head during the process of running. This causes the filament to warp over the stepper motor and melt the filament even before it has reached the nozzle.

So to reduce the amount of heat produced in the extruder head, a newly Designed setup of the Extruder Head is being Assembled with a different setup to reduce the amount Heat Produced in the Head and obtain the product with high precision, accuracy and finishing.

CHAPTER 6
CONCLUSION

To print intricate and complicated parts and to reduce the amount of heat produced in the extruder head of the FDM machine, in the above chapter all these problems were solved by rearranging the setup of the Extruder head with some designed parts in extra and the model was a successful one. This model included two extra parts with the actual setup and the those extra parts were useful in the process of the reducing the amount of heat produced in the Extruder head. So as the heat produced in the Extruder head was successfully reduced, problems like Filament warping, filament breakage in the stepper motor and Filament over heating did not occur during the process of printing done with the redesigned model of the Extruder head .

In this process since the problem of the Filament overheating was stopped, products which were complicated and intricate, products of larger volume were also been able to print. Thus the process of reducing the heat produced in the extruder head and the other problems such as filament breakage and etc, have been solved.

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FABRICATION OF MULTI PURPOSE AGRICULTURAL VEHICLE

REPORT

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INTERNALEXAMINER **EXTERNAL EXAMINER**

FABRICATION OF MULTI PURPOSE AGRICULTURAL VEHICLE

ABSTRACT

Presently, small land holding farmers use work bulls mostly for land preparation. Their use can be increased and made more economical by using them for other farm operations such as ploughing, harrowing, fertilizer application, sowing and weeding. Improved hand tools will also facilitate farm work. Oxen can be used to pull a cart throughout the year which keeps them in training. Ploughs, ridgers, seeders and weeders are all seasonal implements. Manual method of seed planting, results in low seed placement, low crop yield and serious back ache for the farmer which limits the size of field that can be planted. The cost price of imported planters has gone beyond the purchasing power of most of our farmers. Farmers can do much to increase crop production especially grains if drudgery can be reduced or totally removed from their planting operations.

Generally cultivation of any crop involves various steps like seed selection, field preparation, fertilizing, sowing, irrigation, germination, thinning and filling, weed removal, vegetative stage, flowering stage, pesticide spraying, fruit or pod formation stage, harvesting and threshing. Farmer has to use various agricultural equipments and labors for caring out those steps, our purpose is to combine all the individual tools to provide farmers with multipurpose equipment which implements all the scientific farming techniques and specifications and suitable for all type of seed to seed cultivation with as minimum cost as possible.

This project work is focused on the design and fabrication of multipurpose equipment which is used for land preparation, sowing, fertilizing, leveling and weed removal process. The multi- crop planter has the capability of delivering the seeds precisely with uniform depth in the furrow, and also with uniform spacing between the seeds .

The seed planter consist of the main frame, adjustable handle, seed hopper, eed metering disc, adjustable furrow opener, adjustable furrow closer, drive vheels, seed tube . Seedmetering disc was designed to be interchangeable to llow forsowing of the different varieties of seeds. The multipurpose agricultural quipment is very simple to use, the various adjustments are made with ease, and : is maintenance free.

CHAPTER 6

RESULTS AND CONCULSION

Practically our multipurpose agricultural equipment can be used for tilling, fertilizing, sowing, leveling and also used for weed removal purposes. All the parts are connected in such a way that in every stage of agriculture the equipment can be rearranged or easily assembled with fasteners to required length and specifications of field operation.

Our team has successfully combined many ideas from various fields of mechanical engineering and agricultural knowledge to improve the yield and by reducing the labor effort and expenses. The whole idea of multipurpose equipment is a new concept, patentable and can be successfully implement in real life situations.

6.1 Scope for future work

By increasing the equipment strength and quality to its peak, we can have multipurpose agricultural equipment for life time usage. By providing hydraulics, gear arrangements and some minor adjustments the equipment can also be made as tractor powered equipment.

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MECHANICAL PROPERTIES OF ALKALI TREATED MANGIFERA INDICA, TAMARINDUS INDICA AND MORINDA CITRIFOLIA REINFORCED POLYMER COMPOSITES

A PROJECT REPORT

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INTERNAL EXAMINER

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ABSTRACT

Natural fibers are abundant and represent a significant cost reduction compared to wholly synthetic composite materials. The present work focuses on the prediction of tensile & compressive properties of the natural fiber reinforced composite materials, and the values were compared. In this investigation the mango wood composite and the Gia maize composite was fabricated using hand-lay-up method. For tensile test, Specimens were cut from the fabricated laminate according to the ASTM D 638 standards. After that experiment is performed under Universal testing machine (UTM). A cheap and featherweight fiber is the Mangifera Indica, Tamarindus Indica and Morinda Citrifolia combination fiber by polyester resin and it is very useful in many industrial applications. In this research we tried to analyze and study about the mechanical properties of the composites. By the method of treatment analysis, concentration analysis of alkali and polymer nature analysis, the mechanical behavior Testing can be analyzed.

CHAPTER 6

CONCLUSION

Mangifera Indica, Tamarindus Indica and Morinda Citrifolia Fiber particulates composites had been successfully developed in this project. The mechanical properties of the composite has been studied and discussed here. The following conclusions have been drawn from this study.

This work shows that successful fabrication of Mangifera Indica, Tamarindus Indica and Morinda Citrifolia Fiber reinforced composites by simple hand lay-up method. Composite samples are suitable for analyze mechanical properties such as tensile. It has given information about the suitability of Mangifera Indica, Tamarindus Indica and Morinda Citrifolia Fiber a source of reinforcement in phenolic resins composites.

NFR composites have higher fiber content for equivalent performance which reduces the amount of more polluting base phenolic resins. The tensile properties Mangifera Indica, Tamarindus Indica and Morinda Citrifolia Fiber is yields compression strength of about **42.578 N/mm^2** The specimen yields compression strength of about **39.789N/mm^2**. yields flexural strength of about **84.698 Mpa**. these specimen yields impact strength of about **24.8 J** the percentage of absorption of water in specimen the average of these specimen is **0.01 %**. Finale the beat mechanical properties it has wide range of engineering applications.

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FABRICATION OF PORTABLE THERMO ELECTRIC REFRIGERATOR

A PROJECT REPORT

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INTERNAL EXAMINER **EXTERNAL EXAMINER**

ABSTRACT

The global increasing demand for refrigerator in field of refrigerator air conditioning, food preservation, vaccine storages, medical services and cooling of electronic devices, led to production of more electricity and consequently more release of co2 all over the world which it is contributing factor of global warming on climate change. Thermoelectric refrigerator is new alternative because it can convert electricity into useful cooling is expected to play an important role in meeting today. Therefore, thermoelectric refrigerator is greatly needed, particularly for developing countries where life and low maintenance are The objectives of this study is design and develop a working thermoelectric refrigerator that utilizes the peltier effect to refrigerator and maintain select temperature from 16degree to 24degree celsius. The design requirement are to cool the volume to temperature within a time period of 5hrs and provide retention of atleast next half an hour

CHAPTER 5: CONCLUSION

We have been successful in designing a system that fulfils the proposed goals. However we do realize the limitations of this system. The present design can be used only for maintaining a particular temperature. The system is unable to handle fluctuations in load. Extensive modifications need to be incorporated before it can be released for efficient field use. Thermoelectric refrigeration is one of the key areas where researchers have a keen interest. Some of the recent advancements in the area surpass some of the inherent demerits like adverse COP. Cascaded module architecture has defined new limits for its application. Moreover recent breakthrough in organic molecules as a thermoelectric material promises a bright future for TER. With more and more countries showing interest in Montreal and Kyoto protocol, TER is gaining more attention as an affordable, reliable and a green refrigeration alternative.

There are several different types of cooling devices available to remove the heat from industrial enclosures, but as the technology advances,thermoelectric cooling is emerging as a truly viable method that can be advantageous in the handling of certain small-to-medium applications. As the efficiency and effectiveness of thermoelectric cooling steadily increases, the benefits that it provides including self-contained, solid-state construction that eliminates the need for refrigerants or connections to chilled water supplies, superior flexibility and reduced maintenance costs through higher reliability will increase as well.

After conducting tests on designed cold storage plant of cascade refrigeration system with and without phase change material(PCM), following conclusions are drawn. From the experimentation it is observed that in Cascade (Binary) refrigeration system the refrigeration effect can be increased by 27.7% as compared to single system for producing -200C in the cold storage. By using cascade system the actual work can be reduced by 33.3% as compared single system for producing -200C in the cold storage. Experimental results show that the coefficient of performance (COP) of cascade refrigeration system is higher than single refrigeration system. Experimental results shows that for fall of temperature from -200C to 00C without phase change material, takes 5.5 hours time whereas the same by using phase change material it takes 14.5 hours time.

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MECHANICAL PROPERTIES OF PROSOPIS JULIFLORA AND MAIZE FIBER REINFORCED POLYESTER RESIN COMPOSITES

A PROJECT REPORT

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INTERNAL EXAMINER

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ABSTRACT

Natural fibers are abundant and represent a significant cost reduction compared to wholly synthetic composite materials. The present work focuses on the prediction of tensile & compressive properties of the natural fiber reinforced composite materials, and the values were compared. In this investigation the Prosopis Juliflora and Maize Fiber composite was fabricated using hand-lay-up method. For tensile test, Specimens were cut from the fabricated laminate according to the ASTM D 638 standards. After that experiment is performed under Universal testing machine (UTM). From the test results, the tensile & compressive properties of Prosopis Juliflora and Maize Fiber composite material were discuss. The Prosopis Juliflora and Maize Fiber have excellent properties and are being extensively used in verity of engineering applications and suitable alternative material due to their advantage like low cost, low density, high strength and stiffness to weight ratio, low energy consumption, a lesser amount of pollutant emissions and biodegradable materials.

Key words: NFRC, Prosopis Juliflora, hand-lay-up method, tensile & compressive Properties, UTM,

CHAPTER 7

CONCLUSION

Prosopis Juliflora Fiber and Maize fibers particulates composites had been successfully developed in this project. The mechanical properties (tensile, Compressive, Fluctural, impact and water of Absorption) of the composite has been studied and discussed here. The following conclusions have been drawn from this study.

This work shows that successful fabrication of Prosopis Juliflora Fiber and Maize fibers reinforced composites by simple hand lay-up method. Composite samples are suitable for analyze mechanical properties such as tensile. It hasgiven information about the suitability of Prosopis Juliflora Fiber and Maize fibers as a source of reinforcement in polymer matrix composites. NFR composites have higher fiber content for equivalent performance which reduces the amount of more polluting base polymer. The tensile properties Prosopis Juliflora Fiber and Maize fibers is yields tensile strength of about **32.799N/mm^2** The specimen yields compression strength of about **34.677** N/mm^2. yields flexural strength of about **1548.588 Gpa**. average these specimen yields impact strength of about **21.8 J** the percentage of absorption of water in specimen the average of these specimen is **2.45%**. it has wide range of engineering applications.

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DESIGN & FABRICATION OF AUTOMATIC PNEUMATIC VEHICLE

A PROJECT REPORT

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ABSTRACT

Now a days almost every industry trying to develop light & efficient vehicles. Today, the all the vehicles running on conventional & non-conventional fuels are known for producing a large amount of harmful gases like CO_2, SO_2, NO_2etc. which acts increases global warming. The moto of our project is to design & fabricate vehicle running on air pressure for material handling in industries and reduce power consumption. It is rear wheel drive. we develop the concept of pneumatic vehicle from pedal operated tricycle. The vehicle looks like three wheeler in which manual operation is replaced by compressed air pressure.

Key Words: Primary Pneumatic Actuator, Back Air Fill Acuator, Gear & Pinion, Chain Sprocket, Pneumatic Control System

CONCLUSION

The model designed by us is a small scale working model of the compressed air engine. When scaled to higher level it can be used for driving automobiles independently or combined (hybrid) with other engines like I.C. engines.

Main advantages of Compressed Air Engine (C.A.E.) are:

1. Zero emission
2. Use of renewable fuel.
3. Zero fuel cost (the cost is involved only in the compression of air)

It's important to remember that while vehicles running on only compressed air might seem like a distant dream, but they still have public interest due to their environmental friendly nature. Compressed air for vehicle propulsion is already being explored and now air powered vehicles are being developed as a more fuel-efficient means of transportation. This Internatio Compressed Air Vehicle: A Review 13 paper explores the effective application of pneumatic power. Pneumatic vehicle will replace the battery operated vehicles used in industries. Pneumatic powered vehicle requires very less time for refueling as compared to battery operated vehicle.

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FABRICATION OF PNEMATIC BRAKING PROJECT REPORT

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INTERNAL EXAMINER

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ABSTRACT

The Machine we designed and fabricated is used for cutting any shape of object like Circular, Rectangular, and Polygon. In our project the work holding vice is a special type of vice such that the fixed jaw can be adjusted. Hence our project namely portable solar wood Machine is a Special type of Machine. According to the type of material to be cut, the cutting tool can be changed. This project gives details of Cutting various shapes and sizes of components. This machine can be widely applied in almost all type of industries. It's special feature is both the upward and downward feed can be done automatically.

CHAPTER-9

CONCLUSION

The solar wood cutter is mainly designed for the industrial work in a sustainable and efficient way. wood cutting is one of the main operation that is carried out in the buildinhgs. It is a time consuming and labour intensive process. In addition, it consumes a lot of fuel. The conventional wood cutter that are used in the industry is costly. Therefore, the capital investment and operating cost both is very high. Moreover, one wood cutter is not sufficient industry with large areas to rectify all the problems mentioned above the automated wood cutter that we discussed in the paper may be a good solution. The cutter can be used in both day and night time if properly charged. In rainy season due to less sunshine hours, it will take much time for full charging which is a drawback for the users. The cost of the machine is also very low as compared to the presently used cutters. The fuel i.e. solar energy is free of cost. Therefore, the operation cost is almost negligible in this case. The self-life for the solar panel is almost twenty years. Therefore, the machine will remain intact for many years. Our design implies a pollution free environment to the industry. In the conclusion, we can say that the designed model can be an economic alternative for the users inside as well as for the other users outside the industry.

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MANUAL SOLAR PANEL CLEANING SYSTEM

A PROJECT REPORT

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INTERNAL EXAMINER

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ABSTRACT

Dust and dirt particles accumulating on Photovoltaic (PV) panels decrease the solar energy reaching the cells, thereby reducing their overall power output. Hence, cleaning the PV panels is a problem of great practical engineering interest in solar PV power generation. In this work, the problem is reviewed and methods for dust removal are discussed and the microcontroller based robot is proposed to clean the solar panels. Initial testing of the robot has provided favorable results and shows that such a system is viable. It is found that robotic cleaning process can help to clean PV panel efficiency.

CHAPTER 7

CONCLUSION

In this work a robotic system is designed to tackle the soiling challenge on PV panels efficiently. Although promising results are obtained from the prototype design, to validate the efficiency of the proposed robot is tested on a PV panel installed in BSNL plant, Silarpatti village, Madurai. The test results show that the efficiency of the PV panel is improved to 93% by robot cleaning. On the other hand, instead of doing expensive processes to minimise the effect of soiling, this cleaning method can be implemented for an economical operation optimised to improving electricity production

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INVESTIGATION OF MECHANICAL PROPERTIES OF EGG SHELL AND TAMARIND SEED POWDER AND BANANA FIBRE

A PROJECT REPORT

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ABSTRACT :

The composite materials are made up of egg shell and tamariand seed and banana fibre. Composite Materials are reinforced with matrix of polyester resin. The composites are kept at different ratio. This composites are fabricated by compression moulding. This moulding setup is made to dry few hours then,it is allowed for testing.

CHAPTER 7

CONCLUSION

Egg Shell,Banana Fiber And Tamarind Seed particulates composites had been successfully developed in this project. The mechanical properties (tensile, Compressive, Fluctural, impact and water of Absorption) of the composite has been studied and discussed here. The following conclusions have been drawn from this study.

This work shows that successful fabrication of Egg Shell,Banana Fiber And Tamarind Seed reinforced composites by simple hand lay-up method. Composite samples are suitable for analyze mechanical properties such as tensile. It hasgiven information about the suitability of Egg Shell,Banana Fiber And Tamarind Seed as a source of reinforcement in polymer matrix composites. NFR composites have higher fiber content for equivalent performance which reduces the amount of more polluting base polymer. The tensile properties Egg Shell,Banana Fiber And Tamarind Seed is yields tensile strength of about **44.857 N/mm^2** The specimen yields compression strength of about **38.547** N/mm^2. yields flexural strength of about **1852.534Gpa**. Average these specimen yields impact strength of about **29.2 J** the percentage of absorption of water in specimen the average of these specimen is **0.01** %. it has wide range of engineering applications.

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SMART ELECTRIC BIKE

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EXTERNAL EXAMINER

ABSTRACT

The main aim of this project is to give the exact view by bridling the various sources of energy available to mankind. In today's modernized world travelling is very essential for human beings in order to protract in this world. And to do so his travelling should be done in minimum possible way and in jiffy. This paper details about the Electric Bike which runs on the battery thereby providing voltage to the motor. This paper compromises with design and fabrication of Electric Bike which makes use of Electric energy as the primary source and solar energy if possible by attaching solar panels. It also highlights on the design aspects of the bike. There is a provision for a charging the battery by ejecting it from the main system. The electrical power generated which is used to run the bike can give better fuel economy compared to conventional vehicle, better performance and also causes less pollution.

CHAPTER-10
CONCLUSION

With increasing prizes of fuel and pollution alternative choice can be ıvailable which is traditional but in new modify version of bike. In this research ɔaper we are able to design and modify an e-bike which may be the solution to our ɔroblems which we are experience now a days like traffic congestion, parking lifficulties and pollution from fossil fueled vehicles. We have modify and ıssembled the devices required the bike and make the less prize Electric bike ɔompared to market. It has been noted that the electric bibike is not only an ılternative for transportation, but also a way of practicing daily sports to promote ıealthy living. After completing the analysis on e-bike; it is observed that the life ıf people is very fast so no one can purchase e-bike. Only the countries with a arge number of inhabitants are interested in electric bikes because they are a ustainable form of mobility, transport, and countries with high environmental .wareness. Now the data analyzed related to the electric bike shows an increase in cientific and technological interest in this subject because people promoted by the ttraction caused by the price, much less than a scooter, and by its speed and ightness in use, in addition to having a simple and inexpensive recharge. We nodify an idea to develop an e-bike which is manually operated as well as utomatic on electric battery. This paper presents the less costly, light in weight, edal can be used when power not in use and effectively use of e-bike. This paper lentifies potential barriers of electric bike

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COMPARATIVE AND MECHANICAL BEHAVIOUR ANALYSIS OF DISSIMILAE FRICTION STIR WELDED WITH VARIOUS TOOL PROFILE

A PROJECT REPORT

Submitted by

NANTHA KUMAR.K	**920817114054**
PRAVEEN PANDIAN.N	**920817114065**
SASI KUMAR.A	**920817114079**
VISHNU GIRI.K	**920817114100**

in partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

in

MECHANICAL ENGINEERING

NPR COLLEGE OF ENGINEERING AND TECHNOLOGY,

DINDIGUL-624 401

ANNA UNIVERSITY: CHENNAI 600 025

April 2021

ANNA UNIVERSITY: CHENNAI 600 025

BONAFIDE CERTIFICATE

Certified that this project report **'COMPARATIVE AND MECHANICAL BEHAVIOUR ANALYSIS OF DISSIMILAE FRICTION STIR WELDED WITH VARIOUS TOOL PROFILE'** is the bonafide work of **NANTHA KUMAR.K (920817114054), PRAVEEN PANDIAN.N (920817114065), SASI KUMAR.A (920817114079), VISHNU GIRI.K (920817114100)** who carried out the project under my supervision.

SIGNATURE

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HEAD OF DEPARTMENT

Department of Mechanical Engineering,
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SIGNATURE

Mr.T.BALASUBRAMANI, ME
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Submitted to the VIVA-VOCE examination held on 31/7/21

INTERNAL EXAMINER

EXTERNAL EXAMINER

ABSTRACT

Friction stir welding (FSW), a solid-state joining technique, is being extensively used in similar as well as similar joining of Al, Cu,Ti, and their alloys. In the present study, friction stir welding of two aluminium alloys— AA 5052 were carried out at various combinations of tool rotation speeds and feed and axial force.. In this experimental proper selection of input friction welding parameters necessary in order to control weld distortion and subsequently increase the productivity of the process. In order to obtain a good quality weld and control weld distortion, it is therefore, necessary to control the input welding parameters. **In this research work, experiments were carried out on AA 5052&AA6061 of 4 mm thick using friction stir welding process with tool (Taper cylindrical pin, square) as a tool with constant parameters** like that **RPM, Feed and Axial Load.** Experimentally analyzed cylindrical and taper cylindrical square were used and compare to each other and investigate which tool profile give higher tensile strength and other properties, and found the effect of FSW process parameters on mechanical properties of friction stir weldment of dissimilar aluminum alloys using various profile. From the macro investigation the square profile mechanical properties is comparatively good than cylindrical and taper cylindrical tool profile for dissimilar aluminium alloy.

CONCLUSION

Literature review reveals that the researchers have carried out most of the work on varying one parameter at a time and no consideration has been given to interaction effect of two or more parameters. Most of researcher used cylindrical, but taper cylindrical and square type of tool profile is less used, so in this research work cylindrical and taper cylindrical square were used and compare to each other and investigate which tool profile give higher tensile strength and other properties, it was planned to investigate the effect of FSW process parameters on mechanical properties of friction stir weldment of aluminum alloys 6061 &5052 using various profile.

From the macro investigation the square profile mechanical properties is comparatively good than cylindrical and taper cylindrical tool profile.

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SOLAR WOOD CUTTING MACHINE

A PROJECT REPORT

Submitted by

PAUL JACOB KIRUBAHARAN.R (920817114702)

NITHESH KUMAR.V (920817114058)

PANDI.V (920817114060)

YUGA PRASATH.S (920817114101)

in partial fulfilment for the award of the degree
of

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April 2021

BONAFIDE CERTIFICATE

Certified that this report titled "**SOLAR WOOD CUTTING MACHINE**" is the bonafide work of **PAUL JACOB KIRUBAHARAN.R (920817114702), NITHESH KUMAR.V(920817114058), PANDI.V (920817114060), YUGA PRASATH.S (920817114101)** who carried out the work under my supervision. Certified further that to the best of my knowledge the work reported herein does not form part of any other thesis or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

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T.BALASUBRAMANI M.E.,
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Submitted for the project VIVA-VOCE examination held on 31/7/21

INTERNAL EXAMINER

EXTERNAL EXAMINER

ABSTRACT

The Machine we designed and fabricated is used for cutting any shape of object like Circular, Rectangular, and Polygon. In our project the work holding vice is a special type of vice such that the fixed jaw can be adjusted. Hence our project namely portable solar wood Machine is a Special type of Machine. According to the type of material to be cut, the cutting tool can be changed. This project gives details of Cutting various shapes and sizes of components. This machine can be widely applied in almost all type of industries. It's special feature is both the upward and downward feed can be done automatically.

CHAPTER-9

CONCLUSION

The solar wood cutter is mainly designed for the industrial work in a ustainable and efficient way. wood cutting is one of the main operation that is arried out in the buildinhgs. It is a time consuming and labour intensive rocess. In addition, it consumes a lot of fuel. The conventional wood cutter that re used in the industry is costly. Therefore, the capital investment and perating cost both is very high. Moreover, one wood cutter is not sufficient ndustry with large areas to rectify all the problems mentioned above the utomated wood cutter that we discussed in the paper may be a good solution. The cutter can be used in both day and night time if properly charged. In rainy season due to less sunshine hours, it will take much time for full charging which is a drawback for the users. The cost of the machine is also very low as compared to the presently used cutters. The fuel i.e. solar energy is free of cost. Therefore, the operation cost is almost negligible in this case. The self-life for the solar panel is almost twenty years. Therefore, the machine will remain intact for many years. Our design implies a pollution free environment to the industry. In the conclusion, we can say that the designed model can be an economic alternative for the users inside as well as for the other users outside the industry.

NATHAM

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SEMI-AUTOMATIC PREDATOR SENSING VEHICLE

A PROJECT REPORT

Submitted by

RUTHRESH.S	**(920817114074)**
SAMSUDEEN.A	**(920817114075)**
SHEIK ZAHID.S	**(920817114084)**
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ANNA UNIVERSITY :: CHENNAI 600 025

April 2021

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BONAFIDE CERTIFICATE

Certified that this report titled **"SEMI - AUTOMATIC PREDATOR SENSING VEHICLE"** is the bonafide work of **SAMSUDEEN.A (920817114075)** who carried out the work under my supervision. Certified further that to the best of my knowledge the work reported herein does not form part of any other thesis or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

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Submitted for the project VIVA-VOCE examination held on 31/7/21

INTERNAL EXAMINER

EXTERNAL EXAMINER

FABRICATION OF SEMIAUTOMATIC PREDATOR SENSING VEHICLE

ABSTRACT

The purpose of this project is to design and build the **SEMI-AUTOMATIC PREDATOR SENSING VEHICLE** is implemented. This system comprises the Bluetooth, Ultra sonic sensor, Bluetooth remote controller, Receiver, Motor for acceleration purpose, Motor for turning purpose, frame and PIC Microprocessor respectively. This is based on the concept of detecting predator automatically and controlled manually for the prevention. This system works on the basis of receiving and transmitting the data signal through Bluetooth modules. In the proposed work, ultrasonic sensor and Bluetooth module is used. When predator comes near to the vehicle then the ultrasonic sensor detects the animal movement. After getting that initial input signal, it will be given to the PIC microcontroller for further processing and the system will be activated immediately. The LED indication is received and the instruction is being processed to control the vehicle from the predator instantly.

CHAPTER-9

CONCLUSION

The above slides represents about the technical review of our project SEMI- AUTOMATIC PREDATOR SENSING VEHICLE. Itis completely a small scale model and it will get completed in large scale model. The effect of 25 kHz ultrasonic signals on animals are indicated that all animals tested can be subject to hearing disturbances at a distance of up to 15 m. This ultrasonic wave distance is highly dependent on the radiant power of the signal. The higher the emission power is offset by the ability of ultrasonic devices, the further the radiated distance. Therefore this sytem combines systems on transmitters and receivers of bluetooth with real-time monitoring of wild animal positions which is efficient and more sensitive prediction is handled by the vehicle automatically.

N.P.R. COLLEGE OF ENGG. & TECHNOLOGY NATHAM

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Osho Body builders

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MADURAI - 625 018

Date: 25.08.2020

To

The Principal

NPR College of Engineering & Technology,

Natham,

Dindigul-624 401.

Sir,

Sub: letter of Acceptance for In-plant Training - reg.

Ref: Your letter dated on 20.08.2020.

With reference to above **BHUVANESWARAN C, HARISH J, VELMURUGAN P, VISHVA G** of III year Mechanical Engineering students from your institution has been offered Internship from 31.08.2020 to 05.09.2020.

For OSHA BODY BUILDERS

For Osho Body Builders

Manager.

Dr. J.SUNDARARAJAN,
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Date: **05.09.2020**

TO WHOM IT MAY CONCERN

This is to certify that **BHUVANESWARAN C** a student of BE (Mechanical Engineering-Third year) NPR college of Engineering & Technology, Natham, Dindigul, India has successfully completed INPLANT TRAINING **(31.08.2020 to 05.09.2020)** at this **OSHO BODY BUILDERS, MADURAI**. During the period of his INPLANT TRAINING with us, he was found Punctual, Hardworking and Inquisitive.

For

For Osho Body Builders

Manager.

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Date: **05.09.2020**

TO WHOM IT MAY CONCERN

This is to certify that **HARISH J** a student of BE (Mechanical Engineering-Third year) NPR college of Engineering & Technology, Natham, Dindigul, India has successfully completed INPLANT TRAINING **(31.08.2020 to 05.09.2020)** at this **OSHO BODY BUILDERS, MADURAI**. During the period of his INPLANT TRAINING with us, he was found Punctual, Hardworking and Inquisitive.

For

For Osho Body Builders

Manager.

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Date: **05.09.2020**

TO WHOM IT MAY CONCERN

This is to certify that **VELMURUGAN P** a student of BE (Mechanical Engineering-Third year) NPR college of Engineering & Technology, Natham, Dindigul, India has successfully completed INPLANT TRAINING **(31.08.2020 to 05.09.2020)** at this **OSHO BODY BUILDERS, MADURAI**. During the period of his INPLANT TRAINING with us, he was found Punctual, Hardworking and Inquisitive.

For

For Osho Body Builders

Manager.

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Date: **05.09.2020**

TO WHOM IT MAY CONCERN

This is to certify that **VISHVA G** a student of BE (Mechanical Engineering-Third year) NPR college of Engineering & Technology, Natham, Dindigul, India has successfully completed INPLANT TRAINING **(31.08.2020 to 05.09.2020)** at this **OSHO BODY BUILDERS, MADURAI**. During the period of his INPLANT TRAINING with us, he was found Punctual, Hardworking and Inquisitive.

For

For Osho Body Builders

Manager

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Website : www.bnazrum.com

Date: 02.09.2020

To

The Principal

NPR College of Engineering & Technology

Natham

Dindigul-624 401.

Sir,

Sub: Acceptance Letter for In-plant Training – reg.

Ref: Your letter dated on 27.08.2020

This is to confirm that Mani Vannan V, Srivel A, Syed Akmal M, Jeeva Kallidas S of III Year Mechanical Engineering students have been offered In-plant Training from 07.09.2020 to 11.09.2020.

All the time of reporting the above said students need to produce their bonafide certificate.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
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Natham, Dindigul (Dt) - 624 401.

For BNAZRUM AGRO EXPORTS (P) LTD.,

(A.M.Yusuf Ansari)
General Manager

fssai 100 % E.O.U FDA BSCI

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Website : www.bnazrum.com

Date: 11.09.2020

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. MANI VANNAN V, III** year Mechanical Engineering of NPR college of Engineering & Technology, Natham, Dindigul, has successfully completed Five days inplant training from 07.09.2020 to 11.09.2020 in our organization. During this period, he was sincere, enthusiastic and hard working.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
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Date: 11.09.2020

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. SRIVEL A,** III year Mechanical Engineering of NPR college of Engineering & Technology, Natham, Dindigul, has successfully completed Five days inplant training from 07.09.2020 to 11.09.2020 in our organization. During this period, he was sincere, enthusiastic and hard working.

Dr. J.SUNDARARAJAN,
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Date: 11.09.2020

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. SYED AKMAL M,** III year Mechanical Engineering of NPR college of Engineering & Technology, Natham, Dindigul, has successfully completed Five days inplant training from 07.09.2020 to 11.09.2020 in our organization. During this period, he was sincere, enthusiastic and hard working.

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For BNAZRUM AGRO EXPORTS (P) LTD.,

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E-mail : accounts@bnazrum.com
Website : www.bnazrum.com

Date: 11.09.2020

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. JEEVA KALLIDAS S,** III year Mechanical Engineering of NPR college of Engineering & Technology, Natham, Dindigul, has successfully completed Five days inplant training from 07.09.2020 to 11.09.2020 in our organization. During this period, he was sincere, enthusiastic and hard working.

Dr. J.SUNDARARAJAN,
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Date: 03.09.2020

To

The Principal

NPR College of Engineering & Technology,

Natham,

Dindigul-624 401.

Sir,

Sub: letter of Acceptance for Internship - reg.

Ref: Your letter dated on 28.08.2020.

With reference to above **ABDULLA BEE A, GOKULNATH R, GOWTHAM G, GOWTHAM L, HARIHARASUDHAN T** of IV year Mechanical Engineering students from your institution has been offered Internship from 08.09.2020 to 28.09.2020.

Dr. J.SUNDARARAJAN,
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Date: **28.09.2020**

TO WHOM IT MAY CONCERN

This is to certify that **ABDULLA BEE A** a student of BE (Mechanical Engineering-Fourth year) NPR college of Engineering & Technology, Natham, Dindigul, India has successfully completed INTERNSHIP (**08.09.2020 to 28.09.2020**) at this **OSHO BODY BUILDERS, MADURAI**. During the period of his INTERNSHIP with us, he was found Punctual, Hardworking and Inquisitive.

For

For Osho Body Builders

Manager.

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Kovil Pappakudi (P o)
MADURAI - 625 018

Date: **28.09.2020**

TO WHOM IT MAY CONCERN

This is to certify that **GOKULNATH R** a student of BE (Mechanical Engineering-Fourth year) NPR college of Engineering & Technology, Natham, Dindigul, India has successfully completed INTERNSHIP **(08.09.2020 to 28.09.2020)** at this **OSHO BODY BUILDERS, MADURAI**. During the period of his INTERNSHIP with us, he was found Punctual, Hardworking and Inquisitive.

For

For Osho Body Builders

Manager.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

ELEGANCE IN SHAPE AND EXCELLENCE IN QUALITY IS OUR WATCH WORD

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Rajappa Nagar,
Kovil Pappakudi (P.o)
MADURAI - 625 018

Date: **28.09.2020**

TO WHOM IT MAY CONCERN

This is to certify that **GOWTHAM G** a student of BE (Mechanical Engineering-Fourth year) NPR college of Engineering & Technology, Natham, Dindigul, India has successfully completed INTERNSHIP **(08.09.2020 to 28.09.2020)** at this **OSHO BODY BUILDERS, MADURAI**. During the period of his INTERNSHIP with us, he was found Punctual, Hardworking and Inquisitive.

For
For Osho Body Builders

Manager.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

Ayyanar Thunai

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Rajappa Nagar,
Kovil Pappakudi (P.o)
MADURAI - 625 018

Date: **28.09.2020**

TO WHOM IT MAY CONCERN

This is to certify that **GOWTHAM L** a student of BE (Mechanical Engineering-Fourth year) NPR college of Engineering & Technology, Natham, Dindigul, India has successfully completed INTERNSHIP **(08.09.2020 to 28.09.2020)** at this **OSHO BODY BUILDERS, MADURAI**. During the period of his INTERNSHIP with us, he was found Punctual, Hardworking and Inquisitive.

For

For Osho Body Builders

Manager.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt), [illegible]

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Rajappa Nagar,
Kovil Pappakudi (P o)
MADURAI - 625 018

Date: **28.09.2020**

TO WHOM IT MAY CONCERN

This is to certify that **HARIHARASUDHAN T** a student of BE (Mechanical Engineering-Fourth year) NPR college of Engineering & Technology, Natham, Dindigul, India has successfully completed INTERNSHIP **(08.09.2020 to 28.09.2020)** at this **OSHO BODY BUILDERS, MADURAI**. During the period of his INTERNSHIP with us, he was found Punctual, Hardworking and Inquisitive.

For

For Osho Body Builders

Manager.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & T...
Natham, Dindigul

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Agro Exports (P) Ltd.

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Erandalaparai, Dindigul - 624 003.
Tamil Nadu, India.
GST No : 33AABCB2418B1ZJ
CIN : U05110TZ1998PTC008486
Phone : +91 451 2471572, 2470454
E-mail : accounts@bnazrum.com
Website : www.bnazrum.com

Date: 02.09.2020

To

The Principal

NPR College of Engineering & Technology

Natham

Dindigul-624 401.

Sir,

Sub: Acceptance Letter for Internship – reg.

Ref: Your letter dated on 24.08.2020

This is to confirm that Jeeva V, Jegatheesh K, Karthikeyan V, Keerthivasan R, Manikandan K of IV Year Mechanical Engineering students have been offered internship from 10.09.2020 to 30.09.2020.

All the time of reporting the above said students need to produce their bonafide certificate.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

For BNAZRUM AGRO EXPORTS (P) LTD.,

(A.M.Yusuf Ansari)
General Manager

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CIN : U05110TZ1998PTC008468
Phone : +91 451 2471572, 2470454
E-mail : accounts@bnazrum.com
Website : www.bnazrum.com

Date: 30/09/2020

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. JEEVA V** IV year Mechanical Engineering of NPR college of Engineering & Technology, Natham, Dindigul, has successfully completed Twenty one days internship from 10/09/2020 - 30/09/2020 in our organization. During this period, he was sincere, enthusiastic and hard working.

For BNAZRUM AGRO EXPORTS (P) LTD.,

(A.M.Yusuf Ansari)
General Manager

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

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Tamil Nadu, India.
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CIN : U05110TZ1998PTC008458
Phone : +91 451 2471572, 2470454
E-mail : accounts@bnazrum.com
Website : www.bnazrum.com

Date: 30/09/2020

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. JEGATHEESH K** IV year Mechanical Engineering of NPR college of Engineering & Technology, Natham, Dindigul, has successfully completed Twenty one days internship from 10/09/2020 - 30/09/2020 in our organization. During this period, he was sincere, enthusiastic and hard working.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

For BNAZRUM AGRO EXPORTS (P) LTD.,

(A.M.Yusuf Ansari)
General Manager

fssai 100 % E.O.U FDA BSCI

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Agro Exports (P) Ltd.

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Tamil Nadu, India.
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CIN : U05110TZ1998PTC008458
Phone : +91 451 2471572, 2470454
E-mail : accounts@bnazrum.com
Website : www.bnazrum.com

Date: 30/09/2020

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. KARTHIKEYAN V** IV year Mechanical Engineering of NPR college of Engineering & Technology, Natham, Dindigul, has successfully completed Twenty one days internship from 10/09/2020 - 30/09/2020 in our organization. During this period, he was sincere, enthusiastic and hard working.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

For BNAZRUM AGRO EXPORTS (P) LTD.,

(A.M.Yusuf Ansari)
General Manager

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CIN : U05110TZ1998PTC008488
Phone : +91 451 2471572, 2470454
E-mail : accounts@bnazrum.com
Website : www.bnazrum.com

Date: 30/09/2020

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. KEERTHIVASAN R** IV year Mechanical Engineering of NPR college of Engineering & Technology, Natham, Dindigul, has successfully completed Twenty one days internship from 10/09/2020 - 30/09/2020 in our organization. During this period, he was sincere, enthusiastic and hard working.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

For BNAZRUM AGRO EXPORTS (P) LTD.,

(A.M.Yusuf Ansari)
General Manager

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Phone : +91 451 2471572, 2470454
E-mail : accounts@bnazrum.com
Website : www.bnazrum.com

Date: 30/09/2020

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. MANIKANDAN K** IV year Mechanical Engineering of NPR college of Engineering & Technology, Natham, Dindigul, has successfully completed Twenty one days internship from 10/09/2020 - 30/09/2020 in our organization. During this period, he was sincere, enthusiastic and hard working.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

For BNAZRUM AGRO EXPORTS (P) LTD.,

(A.M.Yusuf Ansari)
General Manager

fssai 100 % E.O.U FDA BSCI

JM Frictech India Pvt Ltd (JMI)
G27, SIPCOT Industrial Park,
Katrambakkam Village, Irrungattukottai,
Chennai-Nadu 602105

Date: 28.08.2020

To

The Principal

NPR College of Engineering & Technology

Natham

Dindigul-624 401.

Sir,

Sub: Acceptance Letter for Internship - reg

Ref: Your Letter Dated on 20.08.2020

The letter is to confirm you that Nareshkumar.S, Naveenkumar.M, Premkavi.N, Rahul R and Raja V of IV Year Mechanical Engineering students from your college are permitted to undergo Internship at any manufacturing unit from 03.09.2020 to 30.09.2020.

Expecting your kind cooperation in the record.

With Regards

Senior HR Manager

JM Frictech India Pvt. Ltd,
G-27, SIPCOT Industrial Park,
Irrungattukottai,
Chennai-602 105.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

JM Frictech India Pvt Ltd (JMI)
G27, SIPCOT Industrial Park,
Katrambakkam Village, Irrungattukottai,
Chennai-Nadu 602105

Date: **30/09/2020**

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **NARESHKUMAR S** studying IV year Mechanical Engineering in NPR College of Engineering & Technology, Natham, Dindigul, has successfully completed Twenty Nine days from **03/09/2020 to 30/09/2020** internship in our company. During the period the training period he was has been extremely inquisitive and hard working .He summed to be writing to learn the functions/process with kwon interest.

We wish him every success in life.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

JM Frictech India Pvt. Ltd,
G-27, SIPCOT Industrial Park,
Irrungattukottai,
Chennai-602 105.

JM Frictech India Pvt Ltd (JMI)
G27, SIPCOT Industrial Park,
Katrambakkam Village, Irrungattukottai,
Chennai-Nadu 602105

Date: **30/09/2020**

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **NAVEENKUMAR M** studying IV year Mechanical Engineering in NPR College of Engineering & Technology, Natham, Dindigul, has successfully completed Twenty Nine days from **03/09/2020 to 30/09/2020** internship in our company. During the period the training period he was has been extremely inquisitive and hard working .He summed to be writing to learn the functions/process with kwon interest.

We wish him every success in life.

JM Frictech India Pvt. Ltd,
G-27, SIPCOT Industrial Park,
Irrungattukottai,
Chennai-602 105.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

JM Frictech India Pvt Ltd (JMI)
G27, SIPCOT Industrial Park,
Katrambakkam Village, Irrungattukottai,
Chennai-Nadu 602105

Date: **30/09/2020**

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **PREMKAVI N** studying IV year Mechanical Engineering in NPR College of Engineering & Technology, Natham, Dindigul, has successfully completed Twenty Nine days from **03/09/2020 to 30/09/2020** internship in our company. During the period the training period he was has been extremely inquisitive and hard working .He summed to be writing to learn the functions/process with kwon interest.

We wish him every success in life.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
K.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

JM Frictech India Pvt. Ltd,
G-27, SIPCOT Industrial Park,
Irrungattukottai,
Chennai-602 105.

JM Frictech India Pvt Ltd (JMI)
G27, SIPCOT Industrial Park,
Katrambakkam Village, Irrungattukottai,
Chennai-Nadu 602105

Date: **30/09/2020**

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **RAHUL R** studying IV year Mechanical Engineering in NPR College of Engineering & Technology, Natham, Dindigul, has successfully completed Twenty Nine days from **03/09/2020 to 30/09/2020** internship in our company. During the period the training period he was has been extremely inquisitive and hard working .He summed to be writing to learn the functions/process with kwon interest.

We wish him every success in life.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

JM Frictech India Pvt. Ltd,
G-27, SIPCOT Industrial Park,
Irrungattukottai,
Chennai-602 105.

JM Frictech India Pvt Ltd (JMI)
G27, SIPCOT Industrial Park,
Katrambakkam Village, Irrungattukottai,
Chennai-Nadu 602105

Date: **30/09/2020**

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **RAJA V** studying IV year Mechanical Engineering in NPR College of Engineering & Technology, Natham, Dindigul, has successfully completed Twenty Nine days from **03/09/2020 to 30/09/2020** internship in our company. During the period the training period he was has been extremely inquisitive and hard working .He summed to be writing to learn the functions/process with kwon interest.

We wish him every success in life.

JM Frictech India Pvt. Ltd,
G-27, SIPCOT Industrial Park,
Irrungattukottai,
Chennai-602 105.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

Ayyanar Thunai

Web . oshobodybuilders.in
E.mail : osho osho5@gmail.com
Ph : 0452 - 6562250

Cell : 98425 - 32220
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Plot No 32, (S.V.D.Nagar)
Rajappa Nagar,
Kovil Pappakudi (P.o)
MADURAI - 625 018

Date: 08.07.2021

To

The Principal

NPR College of Engineering & Technology,

Natham,

Dindigul-624 401.

Sir,

Sub: letter of Acceptance for In-plant Training - reg.

Ref: Your letter dated on 01.07.2021.

With reference to above **ASWINBALAJI S, GOWTHAMAN M, MOHANA RAGUL P, RAMAKRISHNAN B, SANGARAN S** of III year Mechanical Engineering students from your institution has been offered Internship from 13.07.2021 to 19.07.2021.

For OSHA BODY BUILDERS

For Osho Body Builders

Manager.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

Ayyanar Thunai

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Rajappa Nagar,
Kovil Pappakudi (P o)
MADURAI - 625 018

Date: **19.07.2021**

TO WHOM IT MAY CONCERN

This is to certify that **ASWINBALAJI S** a student of BE (Mechanical Engineering-Third year) NPR college of Engineering & Technology, Natham, Dindigul, India has successfully completed INPLANT TRAINING **(13.07.2021 to 19.07.2021)** at this **OSHO BODY BUILDERS, MADURAI**. During the period of his INPLANT TRAINING with us, he was found Punctual, Hardworking and Inquisitive.

For

For Osho Body Builders

Manager.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

Ayyanar Thunai

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Rajappa Nagar,
Kovil Pappakudi (P o)
MADURAI - 625 018

Date: **19.07.2021**

TO WHOM IT MAY CONCERN

This is to certify that **GOWTHAMAN M** a student of BE (Mechanical Engineering-Third year) NPR college of Engineering & Technology, Natham, Dindigul, India has successfully completed INPLANT TRAINING **(13.07.2021 to 19.07.2021)** at this **OSHO BODY BUILDERS, MADURAI**. During the period of his INPLANT TRAINING with us, he was found Punctual, Hardworking and Inquisitive.

For

For Osho Body Builders

Manager.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

Ayyanar Thunai

Web : oshobodybuilders.in
E.mail : osho.osho5@gmail.com
Ph : 0452 - 6562250

Cell : 98425 - 32220
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Rajappa Nagar,
Kovil Pappakudi (P.o)
MADURAI - 625 018

Date: **19.07.2021**

TO WHOM IT MAY CONCERN

This is to certify that **MOHANA RAGUL P** a student of BE (Mechanical Engineering-Third year) NPR college of Engineering & Technology, Natham, Dindigul, India has successfully completed INPLANT TRAINING **(13.07.2021 to 19.07.2021)** at this **OSHO BODY BUILDERS, MADURAI**. During the period of his INPLANT TRAINING with us, he was found Punctual, Hardworking and Inquisitive.

For

For Osho Body Builders

Manager.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

Ayyanar Thunai

Web : oshobodybuilders.in
E.mail : osho.osho5@gmail.com
Ph : 0452 - 6562250

Cell : 98425 - 32220
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TIN No. 33915023027

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Rajappa Nagar,
Kovil Pappakudi (P o)
MADURAI - 625 018

Date: **19.07.2021**

TO WHOM IT MAY CONCERN

This is to certify that **RAMAKRISHNAN B** a student of BE (Mechanical Engineering-Third year) NPR college of Engineering & Technology, Natham, Dindigul, India has successfully completed INPLANT TRAINING **(13.07.2021 to 19.07.2021)** at this **OSHO BODY BUILDERS, MADURAI**. During the period of his INPLANT TRAINING with us, he was found Punctual, Hardworking and Inquisitive.

For

For Osho Body Builders

Manager.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

Ayyanar Thunai

Web : oshobodybuilders.in
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Ph : 0452 - 6562250

Cell : 98425 - 32220
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TIN No 33915023027

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Rajappa Nagar,
Kovil Pappakudi (P.o)
MADURAI - 625 018

Date: **19.07.2021**

TO WHOM IT MAY CONCERN

This is to certify that **SANGARAN S** a student of BE (Mechanical Engineering-Third year) NPR college of Engineering & Technology, Natham, Dindigul, India has successfully completed INPLANT TRAINING **(13.07.2021 to 19.07.2021)** at this **OSHO BODY BUILDERS, MADURAI**. During the period of his INPLANT TRAINING with us, he was found Punctual, Hardworking and Inquisitive.

For

For Osho Body Builders

Manager.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

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Erandalaparai, Dindigul - 624 003.
Tamil Nadu, India.
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CIN : U05110TZ[illegible]PTC[illegible]
Phone : +91 451 2471572, 2470454
E-mail : accounts@bnazrum.com
Website : www.bnazrum.com

Date: 22.07.2021

To

The Principal

NPR College of Engineering & Technology

Natham

Dindigul-624 401.

Sir,

Sub: Acceptance Letter for In-plant Training – reg.

Ref: Your letter dated on 14.07.2021

This is to confirm that Maha Lakshmi G, Nagaraj S, Raghulpandian B, Rakesh S, Shobana K of III Year Mechanical Engineering students have been offered In-plant Training from 28.07.2021 to 03.08.2021.

All the time of reporting the above said students need to produce their bonafide certificate.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

For BNAZRUM AGRO EXPORTS (P) LTD.,

(A.M.Yusuf Ansari)
General Manager

100 % E.O.U

Bnazrum
Agro Exports (P) Ltd.

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Erandalapparai, Dindigul - 624 003.
Tamil Nadu, India.
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CIN : U05110TZ1998PTC008488
Phone : +91 451 2471572, 2470454
E-mail : accounts@bnazrum.com
Website : www.bnazrum.com

Date: 03.08.2021

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Ms. MAHA LAKSHMI G** III year Mechanical Engineering of NPR college of Engineering & Technology, Natham, Dindigul, has successfully completed Six days inplant training from 28.07.2021 to 03.08.2021 in our organization. During this period, he was sincere, enthusiastic and hard working.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

For BNAZRUM AGRO EXPORTS (P) LTD.,

(A.M.Yusuf Ansari)
General Manager

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CIN : U05110TZ1998PTC008485
Phone : +91 451 2471672, 2470454
E-mail : accounts@bnazrum.com
Website : www.bnazrum.com

Date: 03.08.2021

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. NAGARAJ S** III year Mechanical Engineering of NPR college of Engineering & Technology, Natham, Dindigul, has successfully completed Six days inplant training from 28.07.2021 to 03.08.2021 in our organization. During this period, he was sincere, enthusiastic and hard working.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

For BNAZRUM AGRO EXPORTS (P) LTD.,

(A.M.Yusuf Ansari)
General Manager

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100 % E.O.U

FDA

BSCI

Bnazrum
Agro Exports (P) Ltd.

[illegible] Road, [illegible] P.O.,
[illegible], Dindigul - 624 [illegible].
Tamil Nadu, India.
GST No : 33AABCB[illegible]
CIN : U0[illegible]PTC00[illegible]
Phone : +91 451 [illegible], [illegible]
E-mail : [illegible]@bnazrum.com
Website : www.bnazrum.com

Date: 03.08.2021

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. RAGHULPANDIAN B** III year Mechanical Engineering of NPR college of Engineering & Technology, Natham, Dindigul, has successfully completed Six days inplant training from 28.07.2021 to 03.08.2021 in our organization. During this period, he was sincere, enthusiastic and hard working.

For BNAZRUM AGRO EXPORTS (P) LTD.,

(A.M.Yusuf Ansari)
General Manager

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

fssai
100 % E.O.U
FDA
BSCI

Bnazrum
Agro Exports (P) Ltd.

Sirumalai Road, Rettipatti P.O.,
Erandalapparai, Dindigul - 624 003.
Tamil Nadu, India.
GST No : 33AABCB2418B1ZJ
CIN : U05110TZ1996PTC008455
Phone : +91 451 2471572, 2470454
E-mail : accounts@bnazrum.com
Website : www.bnazrum.com

Date: 03.08.2021

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. RAKESH S** III year Mechanical Engineering of NPR college of Engineering & Technology, Natham, Dindigul, has successfully completed Six days inplant training from 28.07.2021 to 03.08.2021 in our organization. During this period, he was sincere, enthusiastic and hard working.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

For BNAZRUM AGRO EXPORTS (P) LTD.,

(A.M.Yusuf Ansari)
General Manager

fssai 100 % E.O.U FDA BSCI

Bnazrum
Agro Exports (P) Ltd.

[illegible] Road, [illegible] P.O.
[illegible], Dindigul - [illegible]
Tamil Nadu, India.
GST No : [illegible]
CIN : [illegible]
Phone : +91 451 [illegible]
E-mail : [illegible]@bnazrum.com
Website : www.bnazrum.com

Date: 03.08.2021

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Ms. SHOBANA K** III year Mechanical Engineering of NPR college of Engineering & Technology, Natham, Dindigul, has successfully completed Six days inplant training from 28.07.2021 to 03.08.2021 in our organization. During this period, he was sincere, enthusiastic and hard working.

For BNAZRUM AGRO EXPORTS (P) LTD.,

(A.M.Yusuf Ansari)
General Manager

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

fssai

100 % E.O.U

FDA

BSCI

JM Frictech India Pvt Ltd (JMI)
G27, SIPCOT Industrial Park,
Katrambakkam Village, Irrungattukottai,
Chennai-Nadu 602105

Date: 04.08.2021

To

The Principal

NPR College of Engineering & Technology

Natham

Dindigul-624 401.

Sir,

Sub: Acceptance Letter for In-Plant Training - reg

Ref: Your Letter Dated on 28.07.2021

The letter is to confirm you that Meenakshi Sundaram G, Mugeshwaran N, Rakesh M, Ramkumar A and Shaarif Ahamed S of III Year Mechanical Engineering students from your college are permitted to undergo in-Plant Training at any manufacturing unit from 12.08.2021 to 19.08.2021.

Expecting your kind cooperation in the record.

With Regards

Senior HR Manager
JM Frictech India Pvt. Ltd,
G-27, SIPCOT Industrial Park,
Irrungattukottai,
Chennai-602 106.

Dr. J.SUNDARARAJAN, B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

JM Frictech India Pvt Ltd (JMI)
G27, SIPCOT Industrial Park,
Katrambakkam Village, Irrungattukottai,
Chennai-Nadu 602105

Date: **19.08.2021**

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **MEENAKSHI SUNDARAM G** studying III year Mechanical Engineering in NPR College of Engineering & Technology, Natham, Dindigul, has successfully completed Eight days from **12.08.2021** to **19.08.2021** inplant training in our company. During the period the training period he was has been extremely inquisitive and hard working .He summed to be writing to learn the functions/process with kwon interest.

We wish him every success in life.

JM Frictech India Pvt. Ltd,
G-27, SIPCOT Industrial Park,
Irrungattukottai,
Chennai-602 105.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

JM Frictech India Pvt Ltd (JMI)
G27, SIPCOT Industrial Park,
Katrambakkam Village, Irrungattukottai,
Chennai-Nadu 602105

Date: **19.08.2021**

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **MUGESHWARAN N** studying III year Mechanical Engineering in NPR College of Engineering & Technology, Natham, Dindigul, has successfully completed Eight days from **12.08.2021** to **19.08.2021** inplant training in our company. During the period the training period he was has been extremely inquisitive and hard working .He summed to be writing to learn the functions/process with kwon interest.

We wish him every success in life.

JM Frictech India Pvt. Ltd,
G-27, SIPCOT Industrial Park,
Irrungattukottai,
Chennai-602 105.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

JM Frictech India Pvt Ltd (JMI)
G27, SIPCOT Industrial Park,
Katrambakkam Village, Irrungattukottai,
Chennai-Nadu 602105

Date: **19.08.2021**

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **RAKESH M** studying III year Mechanical Engineering in NPR College of Engineering & Technology, Natham, Dindigul, has successfully completed Eight days from **12.08.2021** to **19.08.2021** inplant training in our company. During the period the training period he was has been extremely inquisitive and hard working .He summed to be writing to learn the functions/process with kwon interest.

We wish him every success in life.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

JM Frictech India Pvt. Ltd,
G-27, SIPCOT Industrial Park,
Irrungattukottai,
Chennai-602 105.

JM Frictech India Pvt Ltd (JMI)
G27, SIPCOT Industrial Park,
Katrambakkam Village, Irrungattukottai,
Chennai-Nadu 602105

Date: **19.08.2021**

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **RAMKUMAR A** studying III year Mechanical Engineering in NPR College of Engineering & Technology, Natham, Dindigul, has successfully completed Eight days from **12.08.2021** to **19.08.2021** inplant training in our company. During the period the training period he was has been extremely inquisitive and hard working .He summed to be writing to learn the functions/process with kwon interest.

We wish him every success in life.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

JM Frictech India Pvt. Ltd,
G-27, SIPCOT Industrial Park,
Irrungattukottai,
Chennai-602 105.

JM Frictech India Pvt Ltd (JMI)
G27, SIPCOT Industrial Park,
Katrambakkam Village, Irrungattukottai,
Chennai-Nadu 602105

Date: **19.08.2021**

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **SHAARIF AHAMED S** studying III year Mechanical Engineering in NPR College of Engineering & Technology, Natham, Dindigul, has successfully completed Eight days from **12.08.2021** to **19.08.2021** inplant training in our company. During the period the training period he was has been extremely inquisitive and hard working .He summed to be writing to learn the functions/process with kwon interest.

We wish him every success in life.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

JM Frictech India Pvt. Ltd,
G-27, SIPCOT Industrial Park,
Irrungattukottai,
Chennai-602 105.

Ayyanar Thunai

Web : oshobodybuilders.in
E.mail : osho.osho5@gmail.com
Ph : 0452 - 6562250

Cell : 98425 - 32220
98430 - 83074

Osho Body builders

ARAI ACCREDIATED &
ISO CERTIFIED COMPANY

TIN No 33915023027

Plot No.32, (S.V.D.Nagar)
Rajappa Nagar,
Kovil Pappakudi (P o)
MADURAI - 625 018

Date: 22.07.2021

To

The Principal

NPR College of Engineering & Technology,

Natham,

Dindigul-624 401.

Sir,

Sub: letter of Acceptance for Internship - reg.

Ref: Your letter dated on 13.07.2021.

With reference to above **ABINASH V, ASWIN NAGANATH G, DINESH KUMAR S, MANOJ KUMAR R, PRAVEENRAJ S, SRIRAM A** of IV year Mechanical Engineering students from your institution has been offered Internship from 27.07.2021 to 23.08.2021.

For OSHA BODY BUILDERS

For Osho Body Builders

Manager.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt), [illegible]

ELEGANCE IN SHAPE AND EXCELLENCE IN QUALITY IS OUR WATCH WORD

Ayyanar Thunai

Web : oshobodybuilders.in
E.mail : osho.osho5@gmail.com
Ph : 0452 - 6562250

Cell : 98425 - 32220
98430 - 83074

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TIN No. : 33915023027

Plot No.32, (S.V.D.Nagar
Rajappa Nagar,
Kovil Pappakudi (P.o)
MADURAI - 625 018

Date: **23.08.2021**

TO WHOM IT MAY CONCERN

This is to certify that **ABINASH V** a student of BE (Mechanical Engineering-Fourth year) NPR college of Engineering & Technology, Natham, Dindigul, India has successfully completed INTERNSHIP **(27.07.2021 to 23.08.2021)** at this **OSHO BODY BUILDERS, MADURAI**. During the period of his INTERNSHIP with us, he was found Punctual, Hardworking and Inquisitive.

For

For Osho Body Builders

Manager.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

Ayyanar Thunai

Web : oshobodybuilders.in
E.mail : osho.osho5@gmail.com
Ph : 0452 - 6562250

Cell : 98425 - 32220
98430 - 83074

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TIN No. 33915023027

Plot No.32, (S.V.D.Nagar
Rajappa Nagar,
Kovil Pappakudi (P.o)
MADURAI - 625 018

Date: **23.08.2021**

TO WHOM IT MAY CONCERN

This is to certify that **ASWIN NAGANATH G** a student of BE (Mechanical Engineering-Fourth year) NPR college of Engineering & Technology, Natham, Dindigul, India has successfully completed INTERNSHIP **(27.07.2021 to 23.08.2021)** at this **OSHO BODY BUILDERS, MADURAI**. During the period of his INTERNSHIP with us, he was found Punctual, Hardworking and Inquisitive.

For

For Osho Body Builders

Manager.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

Ayyanar Thunai

Web : oshobodybuilders.in
E.mail : osho.osho5@gmail.com
Ph : 0452 - 6662250

Cell : 98425 - 32220
98430 - 83074

Osho Body builders

ARAI ACCREDIATED &
ISO CERTIFIED COMPANY

TIN No. 33915023027

Plot No.32, (S.V.D.Nagar
Rajappa Nagar,
Kovil Pappakudi (P o)
MADURAI - 625 018

Date: **23.08.2021**

TO WHOM IT MAY CONCERN

This is to certify that **DINESH KUMAR S** a student of BE (Mechanical Engineering-Fourth year) NPR college of Engineering & Technology, Natham, Dindigul, India has successfully completed INTERNSHIP **(27.07.2021 to 23.08.2021)** at this **OSHO BODY BUILDERS, MADURAI**. During the period of his INTERNSHIP with us, he was found Punctual, Hardworking and Inquisitive.

For

For Osho Body Builders

Manager.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

ELEGANCE IN SHAPE AND EXCELLENCE IN QUALITY IS OUR WATCH WORD

Ayyanar Thunai

Web : oshobodybuilders.in
E.mail : osho.osho5@gmail.com
Ph : 0452 - 6562250

Cell : 98425 - 32220
98430 - 83074

Osho Body builders

ARAI ACCREDIATED &
ISO CERTIFIED COMPANY

TIN No. 33915023027

Plot No.32, (S.V.D.Nagar
Rajappa Nagar,
Kovil Pappakudi (P.o)
MADURAI - 625 018

Date: **23.08.2021**

TO WHOM IT MAY CONCERN

This is to certify that **MANOJ KUMAR R** a student of BE (Mechanical Engineering-Fourth year) NPR college of Engineering & Technology, Natham, Dindigul, India has successfully completed INTERNSHIP **(27.07.2021 to 23.08.2021)** at this **OSHO BODY BUILDERS, MADURAI**. During the period of his INTERNSHIP with us, he was found Punctual, Hardworking and Inquisitive.

For

For Osho Body Builders

Manager.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

ELEGANCE IN SHAPE AND EXCELLENCE IN QUALITY IS OUR WATCH WORD

Ayyanar Thunai

Web . oshobodybuilders in
E.mail : osho.osho5@gmail.com
Ph : 0452 - 6562250

Cell : 98425 - 32220
98430 - 83074

Osho Body builders

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ISO CERTIFIED COMPANY

TIN No. 33915023027

Plot No.32, (S.V.D Nagar
Rajappa Nagar,
Kovil Pappakudi (P.o)
MADURAI - 625 018

Date: **23.08.2021**

TO WHOM IT MAY CONCERN

This is to certify that **PRAVEENRAJ S** a student of BE (Mechanical Engineering-Fourth year) NPR college of Engineering & Technology, Natham, Dindigul, India has successfully completed INTERNSHIP **(27.07.2021 to 23.08.2021)** at this **OSHO BODY BUILDERS, MADURAI**. During the period of his INTERNSHIP with us, he was found Punctual, Hardworking and Inquisitive.

For

For Osho Body Builders

Manager.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

Ayyanar Thunai

Web . oshobodybuilders.in
E.mail : osho.osho5@gmail.com
Ph : 0452 - 6562250

Cell : 98425 - 32220
98430 - 83074

Osho
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ISO CERTIFIED COMPANY

TIN No. 33915023027

Plot No.32, (S.V.D.Nagar
Rajappa Nagar,
Kovil Pappakudi (P.o)
MADURAI - 625 018

Date: **23.08.2021**

TO WHOM IT MAY CONCERN

This is to certify that **SRIRAM A** a student of BE (Mechanical Engineering-Fourth year) NPR college of Engineering & Technology, Natham, Dindigul, India has successfully completed INTERNSHIP **(27.07.2021 to 23.08.2021)** at this **OSHO BODY BUILDERS, MADURAI.** During the period of his INTERNSHIP with us, he was found Punctual, Hardworking and Inquisitive.

For

For Osho Body Builders

Manager.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Tech.
Natham, Dindigul (Dt.) - 624 ...

JM Frictech India Pvt Ltd (JMI)
G27, SIPCOT Industrial Park,
Katrambakkam Village, Irrungattukottai,
Chennai-Nadu 602105

Date: 12.08.2021

To

The Principal

NPR College of Engineering & Technology

Natham

Dindigul-624 401.

Sir,

Sub: Acceptance Letter for Internship - reg

Ref: Your Letter Dated on 04.08.2021

The letter is to confirm you that Aswin M, Naveen Prakash R, Prathiban K, Sabari Nathan T, Sebastin Jerald J and Surya D of IV Year Mechanical Engineering students from your college are permitted to undergo Internship at any manufacturing unit from 19.08.2021 to 04.09.2021.

Expecting your kind cooperation in the record.

With Regards

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

Senior HR Manager
JM Frictech India Pvt. Ltd,
G-27, SIPCOT Industrial Park,
Irrungattukottai,
Chennai-602 105.

JM Frictech India Pvt Ltd (JMI)
G27, SIPCOT Industrial Park,
Katrambakkam Village, Irrungattukottai,
Chennai-Nadu 602105

Date: **04.09.2021**

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **ASWIN M** studying IV year Mechanical Engineering in NPR College of Engineering & Technology, Natham, Dindigul, has successfully completed Seventeen days from **19.08.2021 to 04.09.2021** internship in our company. During the period the training period he was has been extremely inquisitive and hard working .He summed to be writing to learn the functions/process with kwon interest.

We wish him every success in life.

JM Frictech India Pvt. Ltd,
G-27, SIPCOT Industrial Park,
Irrungattukottai,
Chennai-602 105.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

JM Frictech India Pvt Ltd (JMI)
G27, SIPCOT Industrial Park,
Katrambakkam Village, Irrungattukottai,
Chennai-Nadu 602105

Date: **04.09.2021**

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **NAVEEN PRAKASH R** studying IV year Mechanical Engineering in NPR College of Engineering & Technology, Natham, Dindigul, has successfully completed Seventeen days from **19.08.2021 to 04.09.2021** internship in our company. During the period the training period he was has been extremely inquisitive and hard working .He summed to be writing to learn the functions/process with kwon interest.

We wish him every success in life.

JM Frictech India Pvt. Ltd,
G-27, SIPCOT Industrial Park,
Irrungattukottai,
Chennai-602 105.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

JM Frictech India Pvt Ltd (JMI)
G27, SIPCOT Industrial Park,
Katrambakkam Village, Irrungattukottai,
Chennai-Nadu 602105

Date: **04.09.2021**

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **PRATHIBAN K** studying IV year Mechanical Engineering in NPR College of Engineering & Technology, Natham, Dindigul, has successfully completed Seventeen days from **19.08.2021 to 04.09.2021** internship in our company. During the period the training period he was has been extremely inquisitive and hard working .He summed to be writing to learn the functions/process with kwon interest.

We wish him every success in life.

JM Frictech India Pvt. Ltd,
G-27, SIPCOT Industrial Park,
Irrungattukottai,
Chennai-602 105.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

JM Frictech India Pvt Ltd (JMI)
G27, SIPCOT Industrial Park,
Katrambakkam Village, Irrungattukottai,
Chennai-Nadu 602105

Date: **04.09.2021**

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **SABARI NATHAN T** studying IV year Mechanical Engineering in NPR College of Engineering & Technology, Natham, Dindigul, has successfully completed Seventeen days from **19.08.2021 to 04.09.2021** internship in our company. During the period the training period he was has been extremely inquisitive and hard working .He summed to be writing to learn the functions/process with kwon interest.

We wish him every success in life.

JM Frictech India Pvt. Ltd,
G-27, SIPCOT Industrial Park,
Irrungattukottai,
Chennai-602 105.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

JM Frictech India Pvt Ltd (JMI)
G27, SIPCOT Industrial Park,
Katrambakkam Village, Irrungattukottai,
Chennai-Nadu 602105

Date: **04.09.2021**

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **SEBASTIN JERALD J** studying IV year Mechanical Engineering in NPR College of Engineering & Technology, Natham, Dindigul, has successfully completed Seventeen days from **19.08.2021 to 04.09.2021** internship in our company. During the period the training period he was has been extremely inquisitive and hard working .He summed to be writing to learn the functions/process with kwon interest.

We wish him every success in life.

JM Frictech India Pvt. Ltd,
G-27, SIPCOT Industrial Park,
Irrungattukottai,
Chennai-602 105.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

JM Frictech India Pvt Ltd (JMI)
G27, SIPCOT Industrial Park,
Katrambakkam Village, Irrungattukottai,
Chennai-Nadu 602105

Date: **04.09.2021**

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **SURYA D** studying IV year Mechanical Engineering in NPR College of Engineering & Technology, Natham, Dindigul, has successfully completed Seventeen days from **19.08.2021 to 04.09.2021** internship in our company. During the period the training period he was has been extremely inquisitive and hard working .He summed to be writing to learn the functions/process with kwon interest.

We wish him every success in life.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

JM Frictech India Pvt. Ltd,
G-27, SIPCOT Industrial Park,
Irrungattukottai,
Chennai-602 105.

CIN: U28131TZ2009PTC015549

Date: 02.08.2021

To

The Principal
NPR College of Engineering & Technology
Natham

Sir,

Sub: Permission for Internship – Reg
Ref: NPRCET/OFF/MECH/INT/2021-22 dated 27.07.2021

With reference to the above, we are pleased to offer Internship training to the students listed below, Studying B.E – Mechanical Engineering at NPR College of Engineering & Technology, Natham from 05.08.2021 to 25.08.2021 in our organization.

S. No.	Name of the Student	Register Number	Year
1	ALAGARSAMY M	920818114002	IV
2	JOTHIVEL M	920818114010	IV
3	SRIRAM S	920818114027	IV
4	SURYA VISWA M	920818114029	IV
5	VINITH KUMAR A	920818114034	IV
6	RITHISH KUMAR G	920818114501	IV

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

With Regards

(For Thermo Solutions (INDIA) Pvt. Ltd)

TSI
CONCEPT TO COMMISSIONING

THERMO SOLUTIONS

ZQA

UK

(An ISO 9001:2008 Certified Company)

CIN: U28131TZ2009PTC015549

Date: 25.08.2021

TO WHOM IT MAY CONCERN

This is to certify that Mr. ALAGARSAMY M studying in final year Mechanical Engineering of NPR College of Engineering & Technology, Natham has undergone Internship in our organization from 05.08.2021 to 25.08.2021.

During the period, their conduct was found to be good.

With Regards

(For Thermo Solutions (INDIA) Pvt. Ltd)

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

THERMO SOLUTIONS (INDIA) PRIVATE LIMITED
Corp. Office : #10/76, 2nd Cross St, Kumaran Nagar, Virugambakkam, Chennai - 600 092. Telefax : +91 44 2479 2151
Factory : #12A, Sidco Industrial Estate, Dindigul - 624 003. Telefax : +91 451 2470238 / 424
tsi@thermosolutions.net / www.thermosolutions.net

CIN: U28131TZ2009PTC015549

Date: 25.08.2021

TO WHOM IT MAY CONCERN

This is to certify that Mr. JOTHIVEL M studying in final year Mechanical Engineering of NPR College of Engineering & Technology, Natham has undergone Internship in our organization from 05.08.2021 to 25.08.2021.

During the period, their conduct was found to be good.

With Regards

(For Thermo Solutions (INDIA) Pvt. Ltd)

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

CIN: U28131TZ2009PTC015549

Date: 25.08.2021

TO WHOM IT MAY CONCERN

This is to certify that Mr. SRIRAM S studying in final year Mechanical Engineering of NPR College of Engineering & Technology, Natham has undergone Internship in our organization from 05.08.2021 to 25.08.2021.

During the period, their conduct was found to be good.

With Regards

(For Thermo Solutions (INDIA) Pvt. Ltd)

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

CIN: U28131TZ2009PTC015549

Date: 25.08.2021

TO WHOM IT MAY CONCERN

This is to certify that Mr. SURYA VISWA M studying in final year Mechanical Engineering of NPR College of Engineering & Technology, Natham has undergone Internship in our organization from 05.08.2021 to 25.08.2021.

During the period, their conduct was found to be good.

With Regards

(For Thermo Solutions (INDIA) Pvt. Ltd)

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

CIN: U28131TZ2009PTC015549

Date: 25.08.2021

TO WHOM IT MAY CONCERN

This is to certify that Mr. VINITH KUMAR A studying in final year Mechanical Engineering of NPR College of Engineering & Technology, Natham has undergone Internship in our organization from 05.08.2021 to 25.08.2021.

During the period, their conduct was found to be good.

With Regards

(For Thermo Solutions (INDIA) Pvt. Ltd)

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

CIN: U28131TZ2009PTC015549

Date: 25.08.2021

TO WHOM IT MAY CONCERN

This is to certify that Mr. RITHISH KUMAR G studying in final year Mechanical Engineering of NPR College of Engineering & Technology, Natham has undergone Internship in our organization from 05.08.2021 to 25.08.2021.

During the period, their conduct was found to be good.

With Regards

(For Thermo Solutions (INDIA) Pvt. Ltd)

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401

CIN: U28131TZ2009PTC015549

Date: 30.07.2021

To

The Principal
NPR College of Engineering & Technology
Natham

Sir,

Sub: Permission for in-plant training – Reg
Ref: NPRCET/OFF/MECH/IPT/2021-22 dated 26.07.2021

With reference to the above, we are pleased to offer in-plant training to the students listed below, Studying B.E – Mechanical Engineering at NPR College of Engineering & Technology, Natham from 04.08.2021 to 10.08.2021 in our organization.

S. No.	Name of the Student	Register Number	Year
1	BALAKUMARESAN S	920819114006	III
2	MANIKANDAN R	920819114015	III
3	NAVEEN RAJ K	920819114023	III
4	SARAVANAKUMAR M	920819114035	III
5	VELPACKIYARAJ M	920819114039	III

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

With Regards

(For Thermo Solutions (INDIA) Pvt. Ltd)

CIN: U28131TZ2009PTC015549

Date: 10.08.2021

TO WHOM IT MAY CONCERN

This is to certify that Mr. BALAKUMARESAN S studying in third year Mechanical Engineering of NPR College of Engineering & Technology, Natham has undergone in-plant Training in our organization from 04.08.2021 to 10.08.2021.

During the period, their conduct was found to be good.

With Regards

(For Thermo Solutions (INDIA) Pvt. Ltd)

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

CIN: U28131TZ2009PTC015549

Date: 10.08.2021

TO WHOM IT MAY CONCERN

This is to certify that Mr. MANIKANDAN R studying in third year Mechanical Engineering of NPR College of Engineering & Technology, Natham has undergone in-plant Training in our organization from 04.08.2021 to 10.08.2021.

During the period, their conduct was found to be good.

With Regards

(For Thermo Solutions (INDIA) Pvt. Ltd)

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

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tsi@thermosolutions.net / www.thermosolutions.net

CIN: U28131TZ2009PTC015549

Date: 10.08.2021

TO WHOM IT MAY CONCERN

This is to certify that Mr. NAVEEN RAJ K studying in third year Mechanical Engineering of NPR College of Engineering & Technology, Natham has undergone in-plant Training in our organization from 04.08.2021 to 10.08.2021.

During the period, their conduct was found to be good.

With Regards

(For Thermo Solutions (INDIA) Pvt. Ltd)

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

CIN: U28131TZ2009PTC015549

Date: 10.08.2021

TO WHOM IT MAY CONCERN

This is to certify that Mr. SARAVANAKUMAR M studying in third year Mechanical Engineering of NPR College of Engineering & Technology, Natham has undergone in-plant Training in our organization from 04.08.2021 to 10.08.2021.

During the period, their conduct was found to be good.

With Regards

(For Thermo Solutions (INDIA) Pvt. Ltd)

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

CIN: U28131TZ2009PTC015549

Date: 10.08.2021

TO WHOM IT MAY CONCERN

This is to certify that Mr. VELPACKIYARAJ M studying in third year Mechanical Engineering of NPR College of Engineering & Technology, Natham has undergone in-plant Training in our organization from 04.08.2021 to 10.08.2021.

During the period, their conduct was found to be good.

With Regards

(For Thermo Solutions (INDIA) Pvt. Ltd)

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Tech...
Natham, Dindigul (Dt) - 62...

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tsi@thermosolutions.net / www.thermosolutions.net

CIN: U28131TZ2009PTC015549

Date: 24.08.2020

To

The Principal
NPR College of Engineering & Technology
Natham

Sir,

Sub: Permission for Internship – Reg
Ref: NPRCET/OFF/MECH/INT/2020-21 dated 19.08.2020

With reference to the above, we are pleased to offer Internship training to the students listed below, Studying B.E – Mechanical Engineering at NPR College of Engineering & Technology, Natham from 01.09.2020 to 28.09.2020 in our organization.

S. No.	Name of the Student	Register Number	Year
1	MELVIN INFANT RAJ J	920817114045	IV
2	MOHAMED JAVED N	920817114047	IV
3	HARISH KUMAR.A	920817114303	IV
4	MOHAN.P	920817114305	IV
5	MUKILAN.R.A	920817114306	IV

Dr. J.SUJITHA RAJAN,
M.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham - 624 401.

With Regards

(For Thermo Solutions (INDIA) Pvt. Ltd)

CIN: U28131TZ2009PTC015549

Date: 28.09.2020

TO WHOM IT MAY CONCERN

This is to certify that Mr. MELVIN INFANT RAJ J studying in final year Mechanical Engineering of NPR College of Engineering & Technology, Natham has undergone Internship in our organization from 01.09.2020 to 28.09.2020.

During the period, their conduct was found to be good.

With Regards

(For Thermo Solutions (INDIA) Pvt. Ltd)

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

CIN: U28131TZ2009PTC015549

Date: 28.09.2020

TO WHOM IT MAY CONCERN

This is to certify that Mr. MOHAMED JAVED N studying in final year Mechanical Engineering of NPR College of Engineering & Technology, Natham has undergone Internship in our organization from 01.09.2020 to 28.09.2020.

During the period, their conduct was found to be good.

With Regards

(For Thermo Solutions (INDIA) Pvt. Ltd)

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

CIN: U28131TZ2009PTC015549

Date: 28.09.2020

TO WHOM IT MAY CONCERN

This is to certify that Mr. HARISH KUMAR.A studying in final year Mechanical Engineering of NPR College of Engineering & Technology, Natham has undergone Internship in our organization from 01.09.2020 to 28.09.2020.

During the period, their conduct was found to be good.

With Regards

(For Thermo Solutions (INDIA) Pvt. Ltd)

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

CIN: U28131TZ2009PTC015549

Date: 28.09.2020

TO WHOM IT MAY CONCERN

This is to certify that Mr. MOHAN.P studying in final year Mechanical Engineering of NPR College of Engineering & Technology, Natham has undergone Internship in our organization from 01.09.2020 to 28.09.2020.

During the period, their conduct was found to be good.

With Regards

(For Thermo Solutions (INDIA) Pvt. Ltd)

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt.) - 624 401.

CIN: U28131TZ2009PTC015549

Date: 28.09.2020

TO WHOM IT MAY CONCERN

This is to certify that Mr. MUKILAN.R.A studying in final year Mechanical Engineering of NPR College of Engineering & Technology, Natham has undergone Internship in our organization from 01.09.2020 to 28.09.2020.

During the period, their conduct was found to be good.

With Regards

(For Thermo Solutions (INDIA) Pvt. Ltd)

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul - 624 401

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E-mail : accounts@bnazrum.com
Website : www.bnazrum.com

Date: 29.07.2021

To

The Principal

NPR College of Engineering & Technology

Natham

Dindigul-624 401.

Sir,

Sub: Acceptance Letter for Internship – reg.

Ref: Your letter dated on 21.07.2021

This is to confirm that Balamurugan M S, Periyandi P, Sangunathan R, M.Gowtham Kumar, Aathithyan B, Manikandan K of IV Year Mechanical Engineering students have been offered internship from 02.08.2021 to 27.08.2021.

All the time of reporting the above said students need to produce their bonafide certificate.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

For BNAZRUM AGRO EXPORTS (P) LTD.,

(A.M.Yusuf Ansari)
General Manager

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E-mail : accounts@bnazrum.com
Website : www.bnazrum.com

Date: 27.08.2021

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. BALAMURUGAN M S** IV year Mechanical Engineering of NPR college of Engineering & Technology, Natham, Dindigul, has successfully completed Twenty Six days internship from 02.08.2021 to 27.08.2021 in our organization. During this period, he was sincere, enthusiastic and hard working.

For BNAZRUM AGRO EXPORTS (P) LTD.,

(A.M.Yusuf Ansari)
General Manager

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

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Phone : +91 451 2471372, 2470454
E-mail : accounts@bnazrum.com
Website : www.bnazrum.com

Date: 27.08.2021

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. PERIYANDI P** IV year Mechanical Engineering of NPR college of Engineering & Technology, Natham, Dindigul, has successfully completed Twenty Six days internship from 02.08.2021 to 27.08.2021 in our organization. During this period, he was sincere, enthusiastic and hard working.

For BNAZRUM AGRO EXPORTS (P) LTD.,

(A.M.Yusuf Ansari)
General Manager

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

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E-mail : accounts@bnazrum.com
Website : www.bnazrum.com

Date: 27.08.2021

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. SANGUNATHAN R** IV year Mechanical Engineering of NPR college of Engineering & Technology, Natham, Dindigul, has successfully completed Twenty Six days internship from 02.08.2021 to 27.08.2021 in our organization. During this period, he was sincere, enthusiastic and hard working.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

For BNAZRUM AGRO EXPORTS (P) LTD.,

(A.M.Yusuf Ansari)
General Manager

100 % E.O.U

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Phone : +91 451 2471572, 2470484
E-mail : accounts@bnazrum.com
Website : www.bnazrum.com

Date: 27.08.2021

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. GOWTHAM KUMAR M** IV year Mechanical Engineering of NPR college of Engineering & Technology, Natham, Dindigul, has successfully completed Twenty Six days internship from 02.08.2021 to 27.08.2021 in our organization. During this period, he was sincere, enthusiastic and hard working.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

For BNAZRUM AGRO EXPORTS (P) LTD.,

(A.M.Yusuf Ansari)
General Manager

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Phone : +91 451 2471572, 2470454
E-mail : accounts@bnazrum.com
Website : www.bnazrum.com

Date: 27.08.2021

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. AATHITHYAN B** IV year Mechanical Engineering of NPR college of Engineering & Technology, Natham, Dindigul, has successfully completed Twenty Six days internship from 02.08.2021 to 27.08.2021 in our organization. During this period, he was sincere, enthusiastic and hard working.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

For BNAZRUM AGRO EXPORTS (P) LTD.,

(A.M.Yusuf Ansari)
General Manager

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Phone : +91 451 2471572, 2470454
E-mail : accounts@bnazrum.com
Website : www.bnazrum.com

Date: 27.08.2021

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. MANIKANDAN K** IV year Mechanical Engineering of NPR college of Engineering & Technology, Natham, Dindigul, has successfully completed Twenty Six days internship from 02.08.2021 to 27.08.2021 in our organization. During this period, he was sincere, enthusiastic and hard working.

Dr. J.SUNDARARAJAN,
B.E., M.Tech., Ph.D.,
Principal
N.P.R. College of Engineering & Technology
Natham, Dindigul (Dt) - 624 401.

For BNAZRUM AGRO EXPORTS (P) LTD.,

(A.M.Yusuf Ansari)
General Manager

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