



509, Er.PERUMAL MANIMEKALAI POLYTECHNIC COLLEGE  
NBA Accredited : Chemical | CSE | ECE | EEE | Mech | T&D | E(Robotics) | ISO 9001 : 2015 Certified  
(Approved by AICTE, New Delhi and Government of Tamil Nadu)  
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## Er Perumal Manimekalai Polytechnic College, Hosur-635117



**Department of Mechanical Engineering (Tool&Die)**

**Academic Report- 2024-2025**

**Er.PERUMAL MANIMEKALAI POLYTECHNIC COLLEGE**

**Vision of the Institution:**

PMC Tech –Polytechnic College shall emerge as a premier Institute for valued added technical education coupled with Innovation, Incubation, Ethics and Professional values.

**Mission of the Institution:**

1. To foster the professional competence through excellence in teaching and learning.
2. To nurture overall development of students by providing Quality Education & Training.
3. To provide innovative environment to learn, innovate and create new ideas for the betterment of oneself and society.

**DEPARTMENT OF MECHANICAL TOOL & DIE ENGINEERING**

**Vision of the Department:**

To Develop eminent, innovative professional Tool and Die Diploma holders by imparting value added education, embedded with employable skills

**Mission of the Department :**

- To provide competency based quality Tool and Die Engineers by strong theoretical and practical training.
- To provide breeding ground for innovation and leadership through skill development in Tool Design.
- To enhance continual career development and improve employability skills.

### PROGRAMME EDUCATIONAL OBJECTIVES

Our Diploma students will be able to

**PEO1:** Have a successful career in the field of the Tool and Die Engineering Design, Manufacturing, Maintenance and Inspection.

**PEO2:** Become a skilled technician in handling various convention and non convention machines by adopting new technologies.

**PEO3:** Fulfill the demands of industries with good communication, positive attitude and team spirit.

### PROGRAMME SPECIFIC OUTCOMES

**PSO1:** Prepare Tool drawing and make Die Mould part by operating Conventional and Non conventional machines.

**PSO2:** Design and fabricate jigs, fixtures, press tools and plastic moulds for customer needs.

**PSO3:** Apply knowledge and skills with design and development of a project work in the field of Tool and Die making.

### PROGRAMME OUTCOMES

**PO1: Basic and Discipline specific knowledge:** Apply knowledge of basic mathematics, science and engineering fundamentals and engineering specialization to solve the engineering problems.

**PO2: Problem analysis:** Identify and analyse well-defined engineering problems using codified standard methods.

**PO3: Design/ development of solutions:** Design solutions for well-defined technical problems and assist with the design of systems components or processes to meet specified needs.

**PO4: Engineering Tools, Experimentation and Testing:** Apply modern engineering tools and appropriate technique to conduct standard tests and measurements.

**PO5: Engineering practices for society, sustainability and environment:** Apply appropriate technology in context of society, sustainability, environment and ethical practices.

**PO6: Project Management:** Use engineering management principles individually, as a team member or a leader to manage projects and effectively communicate about well-defined engineering activities.


**PO7: Life-long learning:** Ability to analyse individual needs and engage in updating in the context of technological changes.





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**Faculty Details :**

The following faculty's are working in this Department in the year of 2024-2025

S.No	Name of the Faculty	Designation	
1	Mr R.Ramachandran	Head of the Department	
2	Mr C.Prakash	Head of the Department	
3	Mr P.Rajasekar	Lecturer	
4	Mr P.Rajasekar	Lecturer	
5	Mr P.Vinoth Kumar	Lecturer	
6	Mr M.Prabhakaran	Lecturer	
6	Mr V.Kalaimani	Lecturer	

7	Mr L.Arunachalam	Lecturer	
8	Mr R.Singaravel	Lecturer	
9	Mr S.Bharathi	Lecturer	
10	Mr P Vignesh	Lecturer	

**Value added Course :**

**Topic : Plastic Muld design by using Creo software**

**Date : 16.12.2024 to 20.12.2024**

**Resource Person : SVAIC Team**

Our third year students has participated in value added course for Plastic mould design by using creo software They learned how to design a mould using this software and how to manufacture a product from the designed mould.

**Value-added courses are essential in today's competitive job market. Here are some reasons why value-added courses are important:**

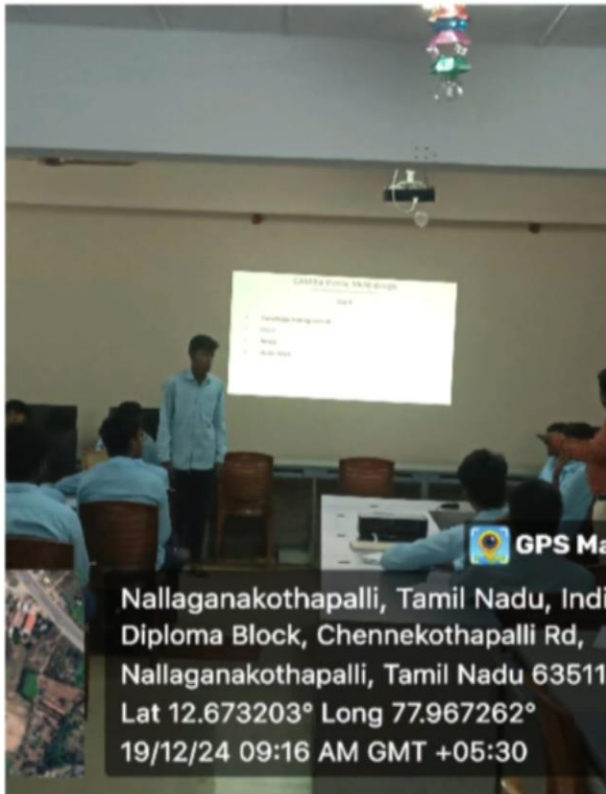
**Importance of Value-Added Courses :**

1. Enhanced Employability: Value-added courses make students more employable by providing them with specialized skills and knowledge.
2. Increased Earning Potential: Studies have shown that individuals with specialized skills and certifications tend to earn higher salaries.
3. Improved Career Prospects: Value-added courses can lead to better career prospects, including promotions and new job opportunities.
4. Development of Soft Skills: Many value-added courses focus on developing soft skills, such as communication, teamwork, and problem-solving.
5. Staying Up-to-Date with Industry Trends: Value-added courses help students stay current with the latest industry trends and technologies.
6. Networking Opportunities: Value-added courses provide opportunities to network with professionals in the industry.
7. Personal Growth and Development: Value-added courses can lead to personal growth and development, including increased confidence and self-esteem.

Creo is a 3D CAD (Computer-Aided Design) software developed by PTC (Parametric Technology Corporation). It is a powerful tool used for designing, simulating, and analyzing products in various industries, including aerospace, automotive, consumer products, and industrial equipment.

**Importance of Plastic Mold Design :**

Plastic mold design is essential for several reasons. Firstly, it directly affects the quality of the final product. A poorly designed mold can lead to defects, such as sink marks, warping, or uneven surfaces, which can compromise the product's functionality and aesthetic appeal. Secondly, a well-designed mold can significantly reduce production costs by minimizing material waste, reducing cycle times, and increasing the mold's lifespan.



**Industrial Visit :**

**Company :** ALF Engineering Pvt Ltd, Hosur

**Date :** 01.08.2024

**Year / Sem :** II & III / III & V

**Company Profile :**

Alf Engineering Pvt Ltd is a leading OE manufacturer of automotive Chassis, and currently manufactures over 1400 frames/day from its plants across India.

Alf Engineering Pvt Ltd is also the largest manufacturer engaged in the indigenous design and development of hydroformed components for the automotive industry, A Hydroforming facility is operational at Nasik, with a design centre to support customers in design & development.

ALF also manufacturers and supplies assemblies and parts for suspensions - both front and Rear. They include cradles, control arms & links.

Growing recognition...In the recent years more companies have come to accept the competence and commitment of ALF to develop critical Hydroformed components /assemblies for chassis & suspension..



### Internship :

Our students has go to implant training for leading industries its help to In-plant training is a type of training where students or trainees are placed in a real-world industrial setting to gain practical experience and skills. This type of training is essential for students, especially those pursuing technical courses.

**Company : Ashok Leyland**

**Date : 23.12.2024 to 27.12.2024**

#### Company Profile:

Ashok Leyland is an Indian multinational automotive manufacturer, It is owned by the Hinduja Group. It was founded in 1948 as Ashok Motors which became Ashok Leyland in the year 1955 after collaboration with British Leyland. Ashok Leyland is the second largest manufacturer of commercial vehicles in India the third largest manufacturer of buses in the world, and the tenth largest manufacturer of trucks.

#### III Year

S. No	Name of the Student	Industry name
1	KISHORE R	Ashok Leyland Ltd, Hosur
2	KISHORE K	
3	SRIKANTH C	
4	LEELATHARAN S	
5	THILAK KUMAR B	
6	MOHAN K	
7	SHRAVAN S	
8	GNANAPRAKASH G	
9	MANOJ KUMAR B	
10	MAHADEVAN S	



## International Day Drug against Program :

Date : 01.07.2024

Our department NSS, NCC & YRC participated in a Drug awareness Program

The International Day Against Drug Abuse and Illicit Trafficking is a significant day that aims to raise awareness about the dangers of drug abuse and illicit trafficking. It promotes action and cooperation among governments, civil society, and individuals to prevent drug abuse and combat illicit trafficking.

### Objectives:

1. Raise Awareness: To raise awareness about the dangers of drug abuse and illicit trafficking.
2. Promote Action: To promote action and cooperation among governments, civil society, and individuals to prevent drug abuse and combat illicit trafficking.
3. Support Victims: To support victims of drug abuse and illicit trafficking.



**Exploring 3D Printing Technology :**

3D printing, also known as additive manufacturing, is a process of creating physical objects from digital designs by layering materials such as plastics, metals, and ceramics.

Our students participated in a 3D Printing conference at Cambridge School, Krishnagiri

**Name of the Students :**

Selvan V.Sakthivel  
Selvan T. Sugavanam

**Date :** 3&4 / 12 /2024



**Motivational Program**

**Year : II**  
**Date : 09.07.2024**

**Resource Person : Mr Raghunath**  
**Relax Training, Chennai**

The Second year students of our department participated in the training program and learned about the morals to follow in the life and the necessary ways to progress in life



**Gramiya kalai Nigalchi :**

Gramiya Kalai Nigalchi is a concept that aims to promote awareness and appreciation of rural arts and culture. It involves recognizing the value of traditional rural art forms, such as music, dance, theater, and crafts, and promoting them as an integral part of our cultural heritage.

**Date : 23.07.2024**



**Training Program for Ashok Leyland Employees :**

Our department faculty's provided training to new employees at Ashok Leyland Ltd, Hosur  
Trained with how to measure linear and angular measurements and equipment handling

**Date :** 31.07.2024



**Independence Day Celebration :**

The Students of our department participated in the 78 th independence day function held  
in our college and conduct mime show on 15.08.2024



**Faculty Development program :**

ATAL Faculty development program has conducted at Er Perumal Manimekalai Polytechnic College, on 17.08.2024 to 22.08.2024 our department faculty Mr.P.Rajasekar is participate in this FDP program

**Topic : Robotics and Process Automation**



**Blood Camp :**

Students and Faculty of our department participated in the blood donation camp organized by our college Youth Red Cross and Government Medical College Hospital Krishnagiri and donated blood on 04.09.2024



Naan Muthalvan :

**Topic : Industry 4.0**

**Year / Sem : III / V**

**Date : 05.09.2024 to 20.09.2024**

**Objective :**

Industry 4.0 refers to a trend or concept in the current manufacturing industry that focuses on automation of processes and data exchange.

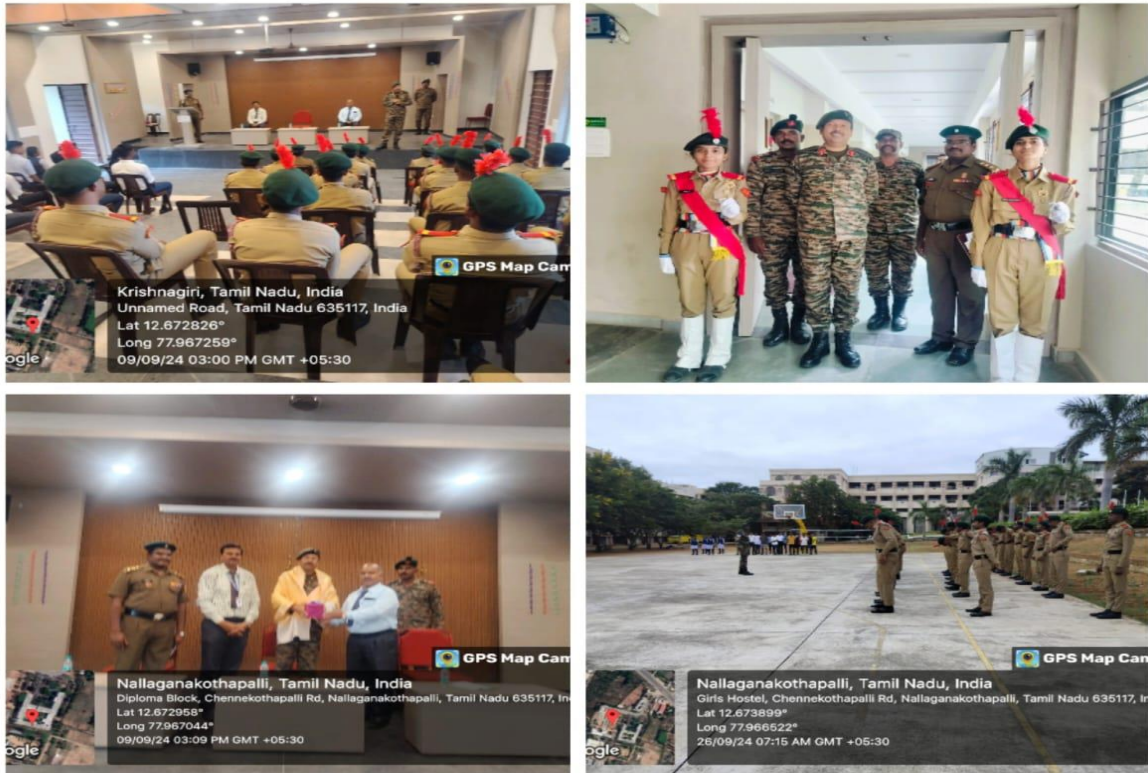
- ✓ Modeling and simulation.
- ✓ IoT and sensor data integration.
- ✓ Data analysis and visualization.
- ✓ Artificial Intelligence and Machine Learning.

Our department Third year students Selvan S.Leelatharan & Selvan V.Ragavendiran is received best project development award HACKATHAN 2024 IN Naan Muthalvan Program



### NCC Selection :

The National Cadet Corps (NCC) is a youth organization in India that aims to develop the character, discipline, and patriotism of young people.



### POCSO awareness program

1. To create awareness among students about the POCSO Act and its provisions.
2. To educate students about the importance of consent, safe touch, and unsafe touch.
3. To empower students with the knowledge and skills necessary to protect themselves from child sexual abuse



**Agapori :**

The Second and Third year students from our department participated in the Agapori program on 12.09.2024



**Yoga Program :**

**Year : I & II (Lateral Entry)**

**Date : 03.09.2024 to 10.09.2023**

Yoga is a practice that connects the body, breath, and mind. It uses physical postures, breathing exercises, and meditation to improve overall health. Yoga was developed as a spiritual practice thousands of years ago

Our First Year and Second Year(Lateral Entry) students from our department participated in the yoga program and received yoga training



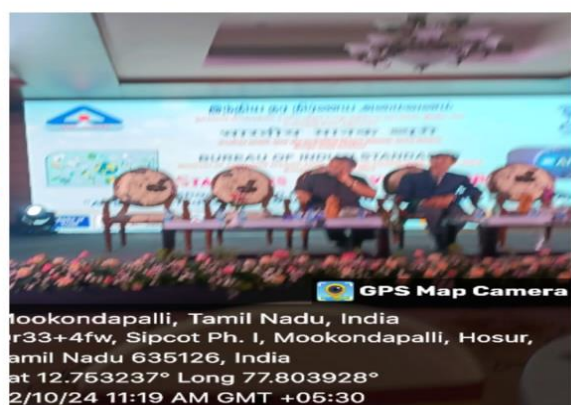
**Swachhta Campaign :**

The Swachh Bharat Mission (SBM) is a nationwide campaign in India to improve sanitation, hygiene, and cleanliness on 02.10.2024



**Bureau of Indian Standards Conference :**

The Bureau of Indian Standards (BIS) is a national standards body that promotes and enforces standards for products and services in India. Our faculty member Mr C.Pakash attended in this conference on 22.10.2024



**Cyber Crime Awareness Program :**

The objective of this program is to educate and raise awareness among women and girls about cybercrimes and crimes against women, and to empower them with the knowledge and skills necessary to protect themselves online and offline. on 29.11.2024



### Pre Placement Program :

The pre-placement training program aims to bridge the gap between academia and industry, enabling students to secure employment and excel in their chosen careers.

A pre-placement training program is designed to prepare students for the job market and improve their employability. Here's an overview:

#### Objectives:

1. Enhance Employability: Equip students with the skills and knowledge required by industry.
2. Improve Communication Skills: Develop students' verbal and written communication skills.
3. Build Confidence: Boost students' confidence and self-esteem.
4. Industry Readiness: Prepare students for the corporate world.

**Training Organization :** Global Talent Track Foundation

**Date :** 06.01.2025 to 08.01.2025

**Participant :** Third Year Students



**Industrial Visit :**

**Name of the Company :** KPF Tool Tech, Hosur

**Date :** 09.01.2025

Industrial visits can be a valuable learning experience for students, providing them with practical insights and industry exposure.

**Company Profile:**

KPF Tool Tech, based in Hosur, Tamil Nadu, specializes in manufacturing sheet metal pressed components for the automobile industry's original equipment manufacturers (OEMs). With 16 years of experience in the pressed components industry, the company has developed expertise in precision engineering and tooling solutions.



**Road Safety Awareness Program :**

**Title :** Road Safety Awareness Program for Mechanical Engineering (Tool&Die) Students

**Date :** 10.01.2025

A Road Safety Awareness Program aims to educate people about road safety rules, regulations, and best practices to reduce accidents and promote safe driving habits



**Seminar :**

Our students participating in Science and technology capacity Building for Industry needs at Government Polytechnic College, Bargur on 21.01.2025. By building science and technology capacity, industries can stay competitive, innovate, and address challenges, ultimately driving economic growth and development



**Value Added Course :**

**Title : 3D Printing**

**Year / Sem : II / VI**

**Date : 23.02.2025 to 26.02.2025**

**Course Objectives:**

1. Introduce 3D Printing Technology: Familiarize students with 3D printing basics, types, and applications.
2. Design for 3D Printing: Teach students to design models for 3D printing using software tools.
3. Hands-on Experience: Provide hands-on experience with 3D printing technology.
4. Project-Based Learning: Encourage students to work on projects that integrate 3D printing with their field of study.



### Institution of Engineers (IEI)

Our department IE(I) nmembershp students participate in national conference for Smart Material in AI at Er Perumal Manimekalai College of Engineering

Smart materials are materials that can sense and respond to their environment in a predictable and controlled manner. When combined with Artificial Intelligence (AI), smart materials can enable the development of innovative applications and systems

The combination of smart materials and AI has the potential to enable the development of innovative applications and systems that can improve performance, safety, and user experience. However, there are also challenges that need to be addressed to fully realize the potential of smart materials in AI.



### Aptitude Training :

**Date :** 29.01.2025 & 30.01.2025

**Participant :** Third Year Students

The aptitude training program was conducted to enhance the quantitative aptitude, logical reasoning, and verbal ability skills of participants. The program aimed to improve problem-solving abilities, critical thinking, and communication skills.



### National Level Technical Symposium :

**Date :** 04.02.2025

**Topic :**

- a. Rapid injection Moulding process
- b. Additive manufacturing
- c. Material Science and nanotechnology
- d. Lean Manufacturing Principles in Tool & Die Making

National-level technical symposiums are events where students from various colleges and universities come together to showcase their technical skills and knowledge

#### **Highlights:**

1. Technical Exposure: Students gained exposure to the latest technologies and trends in their field.
2. Networking Opportunities: Students interacted with peers and experts from other colleges, fostering networking opportunities.
3. Skill Development: Students developed their technical, communication, and teamwork skills.



### ISHRAE Inauguration :

ISHRAE stands for Indian Society of Heating, Refrigerating and Air Conditioning Engineers. It's a professional organization that aims to promote the science and technology of heating, ventilation, air conditioning, and refrigeration (HVAC&R) in India.

#### Objectives:

1. Promote HVAC&R Industry: Advance the science and technology of HVAC&R in India.
2. Knowledge Sharing: Facilitate knowledge sharing among professionals, researchers, and students.
3. Professional Development: Provide opportunities for professional development and networking.



**Industrial Visit :**

**Name of the Company :** VJS Pvt Ltd, Hosur

**Date :** 15.002.2025

Industrial visits can be a valuable learning experience for students, providing them with practical insights and industry exposure.

**Company role:**

The surface treatment industry plays a critical role in enhancing the performance, durability, and aesthetic appeal of materials, and its trends and challenges are shaped by advances in technology, sustainability, and regulation.



**Faculty Development Program :**

**Association With :** ICT Academy

**Title :** Program on PCB Design

**Date :** 17.02.2025 to 21.02.2025

A Faculty Development Program (FDP) on PCB (Printed Circuit Board) Design would aim to enhance the skills and knowledge of faculty members in teaching and research related to PCB design. Here's an outline for such a program:

**Program Objectives:**

1. PCB Design Fundamentals: Understand the basics of PCB design, including design rules, component placement, and routing.
2. Design Tools: Familiarize participants with popular PCB design software tools, such as Altium, Eagle, or KiCad.
3. Design for Manufacturability: Teach participants to design PCBs for manufacturability, including considerations for assembly, testing, and reliability.
4. Advanced Topics: Cover advanced topics, such as high-speed design, signal integrity, and power integrity.



**Tamiliyakkam Inauguration :**

**Date : 18.02.2025**

**Chief Guest : Dr Vishwanathan  
Vice Chancellor  
VIT University**



**Motivational Program :**

**Date : 03.03.2025**

**Participant : First year students**

Motivational programs for first-year students are crucial for their academic and personal growth. Here are some importance:

**Importance:**

1. **Boosts Confidence:** Motivational programs help students build confidence and self-esteem, essential for overcoming challenges.

2. Sets Goals: Motivational programs encourage students to set and work towards achieving their goals.
3. Develops Resilience: Motivational programs teach students to cope with failures and setbacks, developing resilience and perseverance.
4. Improves Academic Performance: Motivational programs can improve students' academic performance by increasing their motivation and engagement.
5. Enhances Time Management: Motivational programs help students develop effective time management skills, balancing academics and extracurricular activities.
6. Fosters Positive Relationships: Motivational programs can help students build positive relationships with peers and mentors, creating a supportive network.



### Symposium :

Our department students participate in national level technical symposium at Government polytechnic college and Muthayamal Polytechnic Institution



### Naan Muthalvan :

Topic : Mechanical Engineering Design (CAD)

Naan Mudhalvan is a program initiated by the Government of Tamil Nadu to empower students and make them industry-ready. Here's an overview:

Program Objectives:

1. Skill Development: Equip students with industry-relevant skills and knowledge.
2. Employability: Enhance students' employability and job prospects.
3. Industry-Academia Collaboration: Foster collaboration between industry and academia.

Program Features:

1. Training and Development: Provide training and development programs for students.

2. Industry Exposure: Offer industry exposure and internships to students.
3. Mentorship: Provide mentorship and guidance to students.
4. Placement Assistance: Assist students with placements and job opportunities.

Benefits:

1. Industry-Ready Students: Students become industry-ready with relevant skills and knowledge.
2. Improved Employability: Students' employability and job prospects improve.
3. Industry-Academia Collaboration: Collaboration between industry and academia increases.



Placement :

Er Perumal Manimekalai Polytechnic College, Hosur  
Department of Mechanical Engineering (Tool & Die)  
Placement Details (2024-2025)

SL. NO	REG.NO	NAME OF THE STUDENT	Sundaram auto Components Ltd	Manjusree techpack Pvt Ltd	Essae Gears Pvt Ltd	Fine autocomponents Pvt Ltd	Maiva Pharma Pvt	Genau Extrusion Pvt Ltd	Schefeller India Ltd	Hyundai Pvt Ltd	Renault Nissan Pvt Ltd	SEP India Pvt Ltd
1	23223051	ARUN KUMAR R			Y	Y					Y	
2	23223054	DILIP R	Y			Y						
3	23223055	DINESH G										Y
4	23223056	GANESH KUMAR S	Y			Y						
5	23223057	GNANAPRAKASH G			Y	Y				Y		
6	23223058	HEMA KUMAR V	Y			Y	Y					
7	23223060	KIRAN KUMAR V							Y			
8	23223061	KISHORE K	Y			Y					Y	
9	23223062	KISHORE R				Y	Y					
10	23223063	LEELADHARAN S	Y			Y						
11	23223064	MAHADEVAN S						Y				
12	23223065	MANIGANDAN R			Y	Y	Y					
13	23223066	MANOJKUMAR B			Y				Y			
14	23223067	MOHAN K	Y			Y	Y					
15	23223069	NARESH M									Y	
16	23223070	NAVEEN KUMAR M	Y			Y	Y					
17	23223072	NIRANJAN M	Y			Y	Y				Y	
18	23223073	NIRMAL KUMAR V			Y		Y			Y		
19	23223074	NITHISHKUMAR N		Y								
20	23223076	PRAKASH G	Y									
21	23223077	PRAVEEN KUMAR M	Y				Y					
22	23223079	PUGAZENTHI P	Y			Y						
23	23223081	RAJAMANICKAM R							Y			
24	23223082	SANJAY Y				Y				Y		
25	23223083	SHRAVAN S	Y			Y						
26	23223084	SIVARAJKUMAR K										Y
27	23223085	SRIDHAR A			Y							
28	23223086	SRIKANTH C				Y			Y			
29	23223087	SUJITH N	Y						Y			

30	23223089	SUWIN SALAMAN RAJU S	Higher Studies									
31	23223091	THILAK KUMAR B	Y			Y						
32	23223092	THULASINATHAN S	Higher Studies									
33	23296826	NARAYANAN V	Y			Y				Y		
34	23296827	RAGAVENDIRAN V						Y		Y		

S.No	Name of the Industry	No of Students Selected	CTC
1	Sundaram auto Components Ltd	15	2.10
2	Manjusree techpack Pvt Ltd	1	2.82
3	Essae Gears Pvt Ltd	7	2.19
4	Fine autocomponents Pvt Ltd	17	3.19
5	Maiva Pharma Pvt Ltd	8	2.40
6	Genau Extrusion Pvt Ltd	2	2.10
7	Schefeller India Ltd	5	1.92
8	Hyundai Pvt Ltd	5	2.70
9	Renault Nissan Pvt Ltd	4	2.40
10	SEP India Pvt Ltd	2	2.25

No of Placement Order	No of Students
Single Order	9
Two Order	13
Three order	9
Four Order	1

**THANK YOU**