SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107

AN AUTONOMOUS INSTITUTION

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Ref: SNSCE/IIPC/ECE/INTERNSHIP/2023-2024/II-04 05.07.2024

To

Mr. Anver Basha.S,
Max Automation,
Coimbatore,
Tamil Nadu.

Respected Sir,

Sub: SNSCE-II year B.E(ECE) – Requesting permission – Internship – reg.

SNS College of Engineering Coimbatore, established in the year 2007, is an excelling institution in Tamil Nadu committed to produce engineers of high caliber and professionalism. Accredited by NAAC-UGC with 'A' Grade. The college offers 10 B.E/B. Tech Courses in AI&DS, CSE, CST, CSD, CSE (IOT & CS including Blockchain Technology), ECE, EEE, IT, Mechanical, Mechanical & Mechatronics (Additive Manufacturing) and 2 PG Courses in Engineering in addition to MBA.

An Internship program for the students will provide better understanding of the subject and also an exposure on industrial needs. In this aspect the Second year B.E(ECE) students listed below are very much interested to do internship in your esteemed organization for a period of 21 days (08.07.2024 – 31.07.2024). We request you to kindly grant permission for the internship.

S. No	Register Number	Name of the student
1.	713322EC058	VIGNESH N

We assure you that our students will maintain at most discipline during their stay at your premises and will strictly follow the rules and regulations of your organization. We will be thankful to you if you would kindly accord permission for the internship.

Thanking you,

PRINCIPAL

MAX Automation
2/386/5, Near Shanthi Gears(C)Unit, Kurumbapalayam,
Coimbatore - 641402.
E-mail:maxautomationcbe95@gmail.com

Ref: 32 Internship Certificate VIGNESH N SNS Eng Date: 31/07/2024

TO WHOM SO EVER IT MAY CONCERN

This is to certify that **Mr.VIGNESH.N (Reg No. 713322EC058)** Studying in Second Year B.E-Electronics and Communication Engineering at SNS College of Engineering, Coimbatore, has undergo training in CNC machine maintenance & Re conditioning activity in our company from **08-07-2024 To 31-07-2024**

His performance and Conduct during the training period was good.

We wish him to every success in his future.

For max automation

(S. Anver Basha)

MAX AUTOMATION CBE-406

SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore–641107

(An Autonomous Institution)

Accredited by NAAC – UGC with 'A' Grade Approved by AICTE, New Delhi &
Affiliated to Anna University, Chennai

Department of Electronics and Communication Engineering

Academic Year 2023-24

INTERNSHIP REPORT

19EC406 INTERNSHIP - I

Student Name with Register Number:

S. No	Register Number	Name of the student	Class
1	713322EC058	VIGNESH.N	III ECE

Name of the Company : MAX AUTOMATION

Period of Internship Training : 08.07.2024 - 31.07.2024

Industry Guide : Mr.S.Anver Basha, Industry Supervisor

Faculty Guide (Mentor) : Dr.K.Jagadeesh, AP/ ECE

FACULTY GUIDE (MENTOR) **IIPC COORDINATOR** **HoD**

ACKNOWLEDGEMENT

I wish to express my heartfelt gratitude to the Department of Electronics and Communication Engineering, SNS College of Engineering for their continued support, in technical expertise I aspire to excel this techno savvy world.

I record obligation to **Dr. S. N. Subbramanian, Ph.D.,** Chairman, **Dr. S. Raja Lakshmi, Ph.D.,** Correspondent, **Dr. S. Nalin Vimal Kumar, Ph.D.,** Technical Director of SNS Institutions for setting up an excellent atmosphere in this institution.

I'm highly grateful to respected Director **Dr.V.P.Arunachalam,Ph.D.,** for his guidance and sustained encouragement for the successful completion of internship.

I would like to thank our beloved and respected principal **Dr. Charles S, Ph.D.,** for his guidance and sustained encouragement for the successful completion of internship.

I wish to express the deepest gratitude to my Head of the Department **Dr.S. Jebarani Evangeline, M.E., Ph.D.,** who has been inspirational and supportive throughout the internship.

I sincerely acknowledge the excellent assistance rendered by External Guide **Mr.S.Anver Basha, Industry Supervisor,** Max Automation, who motivated me to bring out this internship in a successful manner.

I would like to thank my internal guide, **Dr.K.Jagadeesh,M.E.,Ph.D.,** Assistant Professor of Electronics and Communication Engineering, from the bottom of my heart for being there with me whenever I needed her expertise and helping me to complete the internship successfully.

And also, I specially thank my department staff, lab instructors and attenders. They helped me externally throughout the internship.

Finally, I would like to thank my parents for providing me with the emotional and financial help generously but for which I wouldn't have been in this stage of life.

INTRODUCTION OF INDUSTRY:

Max Automation, as outlined in the internship, exemplifies this industry's role by leveraging cutting-edge PCB technologies to support small and medium enterprises (SMEs), contributing significantly to the electronics and PCB sectors. Their focus on skill development and real-time projects ensures alignment with market demands and technological trends

The PCB (Printed Circuit Boards) machining industry is a cornerstone of modern manufacturing, playing a pivotal role in the production of precision components for various sectors, including automotive, aerospace, electronics, and medical devices. PCB technology enables automated and accurate control of machining tools through computer programming, offering enhanced efficiency, consistency, and scalability compared to manual methods.

The industry thrives on innovation and continuous improvements in machinery, software, and methodologies. Recent advancements include multi-axis PCB machines, which allow for more complex designs and reduced setup times, and the integration of CAD (Computer-Aided Design) and CAM (Computer-Aided Manufacturing) software, streamlining the design-to-production workflow.

The industry is critical in supporting the growing demand for high-quality, custom, and mass-manufactured components. Furthermore, its applications in rapid prototyping and production of intricate parts make it an indispensable part of modern manufacturing ecosystems.

INDUSTRY OVERVIEW:

Industry Overview

The internship at Max Automation provided insights into the Micro, Small, and Medium Enterprises (MSMEs) sector, particularly focusing on PCB machine operations. MSMEs are the backbone of industrial development in India, supported by organizations like the **National Small Industries Corporation (NSIC)**.

NSIC promotes and fosters MSME growth by offering integrated support in **marketing, technology, and finance**, ensuring competitiveness in the global market. The sector plays a critical role in **technological innovation**, offering services like CAD design, PCB machining, energy efficiency, and technical training, which align with modern industrial needs.

Key industry practices observed include:

1. **PCB Technology Applications**:
    - Milling and drilling operations.
    - Multi-axis PCB programming and operations.
    - Quality control and maintenance procedures.
2. **Technology Integration**:
    - Use of CAD software for design and testing.
    - Practical hands-on experience with machine operations.
3. **Skill Development**:
    - Training in troubleshooting and maintenance enhances operational efficiency.
    - Exposure to G-Code programming for precision machining.

The MSME sector benefits from policy initiatives like single-point registration for government procurement, exemptions for MSMEs, and digital B2B platforms, ensuring streamlined operations and global connectivity. These frameworks are critical in addressing **challenges like resource constraints and competition**, paving the way for sustainable growth.

Through internships in dynamic environments, students gain valuable **practical exposure** to technologies like PCB machining and develop skills for future industrial roles.

OBJECTIVES OF INTERNSHIP:

- Gain in-depth knowledge about PCB machines and their operations.
- Learn safety protocols and maintenance procedures for PCB machines.
- Understand PCB machine components and their functions.
- Acquire skills in PCB software for designing and drafting.
- Develop proficiency in G-Code programming and PCB machine setup.
- Gain practical experience with PCB milling, drilling, and multi-axis operations.
- Learn troubleshooting techniques for common PCB machine issues.
- Enhance technical skills through real-time hardware-based projects.
- Understand quality control processes in PCB machining.
- Apply theoretical knowledge to practical applications in a professional environment.

REPORT

Week 1: 08.07.2024 to 13.07.2024

Introduction to PCB

PCB (Printed Circuit Boards) machines represent a transformative advancement in manufacturing technology. These machines automate the control of tools through pre-programmed software, enabling precision, efficiency, and consistency in production. PCB technology is widely applied in various industries such as automotive, aerospace, electronics, and more, where complex operations like cutting, drilling, and milling are required. By eliminating manual intervention, PCB machines reduce errors, improve productivity, and enable mass production of high-quality components. An overview of PCB machines encompasses their basic operation, components, and their role in modern industrial applications, underscoring their significance in streamlining manufacturing processes.

Safety protocols in PCB operations are crucial to ensure the well-being of operators and the proper functioning of machinery. During the internship, key safety measures learned include:

1. Personal Protective Equipment (PPE): Always wear appropriate PPE, including safety goggles, gloves, ear protection, and safety shoes, to protect against potential hazards such as flying debris or loud noise.

2. Machine Inspection: Regularly inspect PCB machines for any signs of wear or malfunction before use to prevent accidents.

3. Emergency Stop Button Familiarity: Understand the location and operation of emergency stop buttons for quick intervention during unexpected situations.

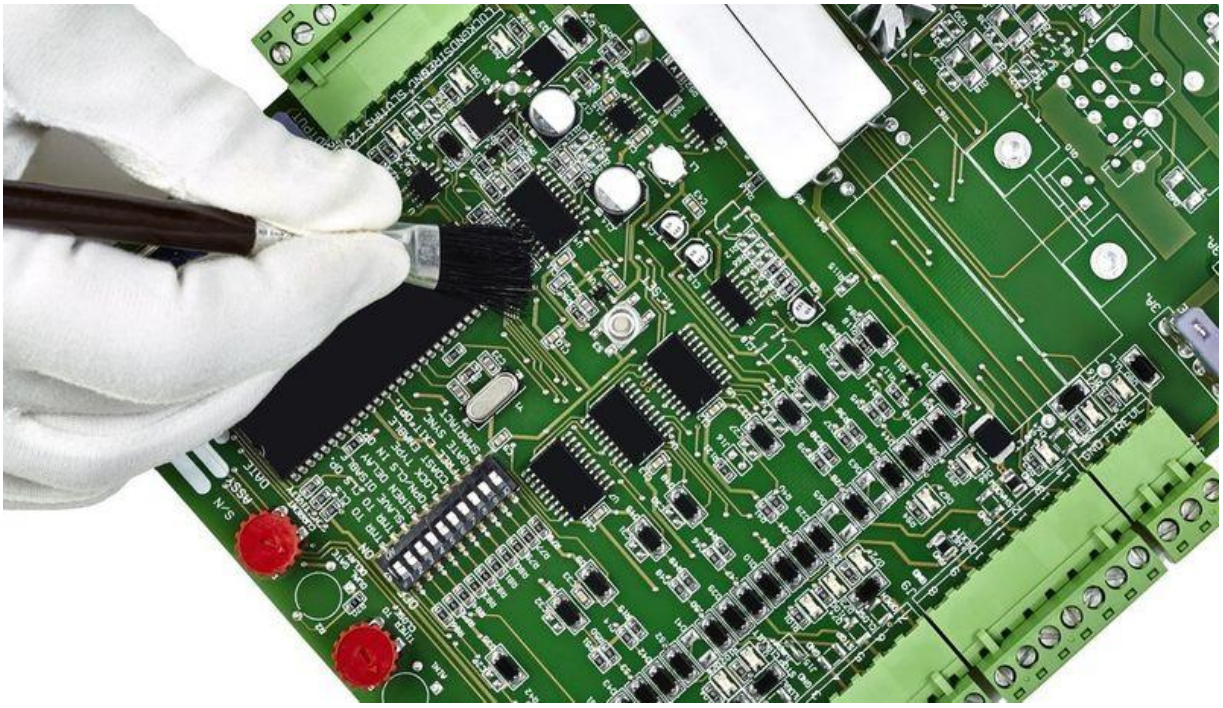
4. Safe Handling of Tools and Materials: Properly secure tools and workpieces to avoid movement during machining, reducing the risk of accidents.

5. Work Area Cleanliness: Maintain a clean and organized workspace to minimize trip hazards and ensure safe machine operation.

6. Adherence to Safety Protocols: Strictly follow manufacturer guidelines, operational manuals, and company-specific safety procedures during setup, programming, and machining tasks.

These protocols not only safeguard operators but also contribute to efficient and smooth PCB operations.

The training program covered critical aspects of PCB machinery and its operations. It began with an introduction to **PCB machine components**, emphasizing their key functions and roles in ensuring efficient operation. Participants learned the foundational **G-Code commands**, which form the basis for PCB programming. The sessions on **setup procedures** highlighted the importance of accurate calibration and proper configuration to optimize performance.



Basic **maintenance practices** were taught to ensure machinery longevity and minimize downtime. The course also introduced **CAD software**, providing participants with hands-on training to design simple parts, fostering practical skills in computer-aided design. Further, **PCB machine programming** concepts were explored, enabling the creation and customization of machining instructions. Lastly, the program included a focus on **machine operations**, offering real-time insights into executing tasks with precision and efficiency.

Week 2: 15.07.2024 to 20.07.2024

Troubleshooting Common Issues

During my training, I learned how to identify and resolve common issues that arise during PCB operations. This included diagnosing problems related to machine calibration, tool wear, program errors, and material inconsistencies. I became proficient in using diagnostic tools and understanding machine behavior to fix issues like incorrect cuts, machine tool malfunctions, or software miscommunication.

G-Code Techniques

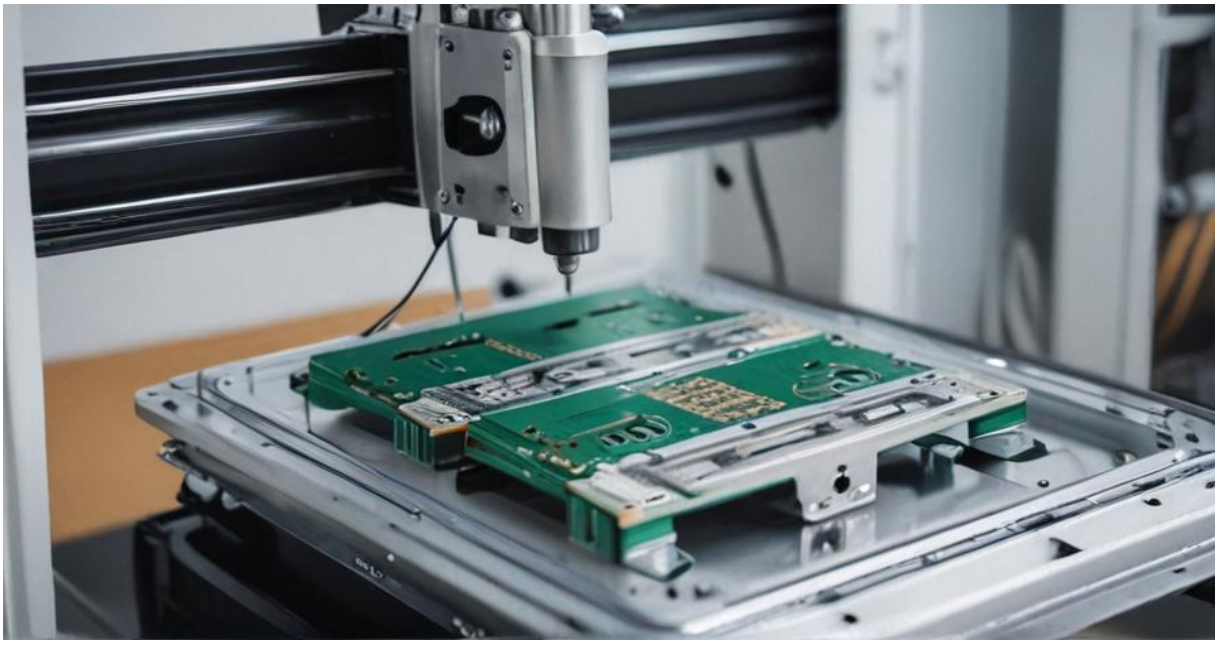
I gained a solid understanding of G-Code, the programming language used to control PCB machines. This included learning how to write, modify, and optimize G-Code to ensure efficient machining operations. I focused on the most common G-Codes and their functions, such as those for linear interpolation, tool changes, and speed control. I also explored advanced techniques like subroutine programming and macro functions to enhance machine performance and reduce programming errors.

Introduction to PCB Drilling Machines

I was introduced to PCB drilling operations, understanding the different types of drills used in PCB machines and their applications. I learned about the role of drilling in manufacturing, how to set up PCB drills, and the different drilling techniques (e.g., peck drilling, spot drilling). I also studied the materials and speeds required for optimal drilling, as well as the proper maintenance procedures for PCB drilling machines to ensure longevity and precision.

Practical Training with PCB Drills

During practical training, I operated PCB drilling machines, applying the knowledge gained in the classroom to real-world tasks. I gained hands-on experience in setting up drills, loading materials, and running the PCB programs. This practical exposure helped me develop the skills needed to optimize drilling operations, troubleshoot issues, and ensure accurate hole placements on various materials.



Introduction to PCB Milling Machines

I was introduced to the basic functions and operations of PCB milling machines. This involved understanding the mechanical components, axes, and tooling used in milling operations. I learned about various milling operations like face milling, end milling, and slotting, as well as their applications in different industries. Additionally, I studied the importance of setting up the correct milling parameters (e.g., cutting speed, feed rates) to achieve precise results.

Practical Training with PCB Milling Machines

In practical sessions, I operated PCB milling machines, performing tasks like setting up the machine, loading and unloading materials, and executing milling operations. I practiced creating complex geometries, adjusting cutting tools, and troubleshooting problems such as tool wear or misalignment. This hands-on training reinforced my understanding of PCB milling and helped me develop the necessary skills for real-world machining tasks.

This combination of theoretical knowledge and practical experience has greatly enhanced my proficiency in operating PCB machinery, troubleshooting common issues, and optimizing PCB drilling and milling operations.

Week 3: 22.07.2024 to 31.07.2024

Introduction to Multi-Axis PCB Machines

Multi-axis PCB (Printed Circuit Boards) machines represent a significant advancement in the machining world, offering enhanced precision, flexibility, and the ability to handle complex geometries in manufacturing. These machines are capable of moving a tool or part in multiple directions (usually three to five axes), providing a higher degree of freedom compared to traditional PCB machines. This allows for the machining of intricate parts and components that would otherwise require multiple setups and tooling adjustments, leading to increased efficiency and reduced production time.

Learned About Multi-Axis PCB Machines

During the training, I gained an in-depth understanding of the various types of multi-axis PCB machines, including three-axis, four-axis, and five-axis systems. The primary distinction between them lies in the number of axes available for movement. A three-axis machine moves in the X, Y, and Z planes, while four-axis machines add a rotational axis (often around the X or Y axis). Five-axis PCB machines provide the most flexibility, with two additional rotational axes, allowing for even more complex and precise movements.

I also learned about the mechanical components, such as rotary tables, tilting spindles, and tool changers, that enable multi-axis functionality. The advantage of using multi-axis PCB machines lies in their ability to manufacture complex parts in a single setup, which reduces the chances of error and improves overall production efficiency.

Practical Training with Multi-Axis PCB Machines

Hands-on practical training with multi-axis PCB machines helped me solidify the theoretical concepts learned. The training involved operating the machines, setting up workpieces, selecting tools, and programming the machines using G-code. I practiced simulating tool paths and performing dry runs to ensure the machine's movements were accurate and free from errors. The opportunity to interact with real PCB machines allowed me to observe the importance of proper setup and how different axes contribute to precision and surface finish quality.

Operation of Multi-Axis PCB Machines

Operating multi-axis PCB machines required understanding both manual and automated controls. I learned how to use the machine's interface to select the appropriate tool, adjust machine settings, and start the machining process. I also gained insights into more advanced operations such as tool compensation, work offset calibration, and optimizing the cutting parameters (feed rate, spindle speed, depth of cut) based on the material and part geometry.

One of the key challenges in operating multi-axis PCB machines is the ability to visualize and plan the machining process in three dimensions, as the complexity increases with more axes. Mastering this skill is critical to ensuring efficient programming and minimizing errors during production.

PCB Machine Quality Control

Quality control in PCB machining is vital for ensuring the production of parts that meet specified tolerances and standards. I learned about the different techniques used in PCB machine quality control, including the use of coordinate measuring machines (CMM), laser scanning systems, and visual inspection tools. Monitoring the machine's performance and the accuracy of finished parts is crucial to avoid costly defects and rework.

Additionally, I gained experience in measuring part features, comparing them with the design specifications, and making necessary adjustments to the machine's settings to maintain high quality throughout the production process.

Learned About Quality Control Processes in PCB Machining

Throughout the training, I learned how quality control processes in PCB machining help ensure the consistency and precision of manufactured parts. This includes regular calibration of machines, monitoring of tool wear, and maintaining a clean and safe work environment to prevent contamination that could affect part quality. Statistical Process Control (SPC) techniques were also introduced as a means to track and analyze the machining process to identify potential issues before they lead to defective products.

The feedback loop in quality control helps in identifying any process deviations early, making it easier to troubleshoot problems and maintain the required standards.

Printed Circuit Board Project: A Project Involving PCB Machining

A significant part of the training involved working on a project that incorporated multi-axis PCB machining. The project allowed me to apply everything I had learned—programming, machine setup, operation, and quality control—in a real-world scenario. The project involved creating a complex part design, programming it using G-code, and running the PCB machine to manufacture the part.

Through this project, I experienced the entire process of PCB machining, from initial design to finished product. It gave me a deep understanding of the challenges and opportunities in multi-axis machining, such as optimizing cutting strategies and adjusting for tool wear.

Review and Feedback Session

After completing the project, I participated in a review and feedback session. During this session, I received valuable feedback from my trainers and peers. The feedback focused on areas for improvement, such as refining toolpath strategies, adjusting machine settings for better surface finishes, and optimizing the use of the machine's axes for faster machining times.

I also had the opportunity to discuss challenges I faced during the project, particularly in understanding complex geometries and programming for multi-axis machines. The session was insightful, as it helped me realize the importance of continuous learning and the need for practical experience in mastering multi-axis PCB machining.

Conclusion

In conclusion, the training on multi-axis PCB machines was highly beneficial, enhancing both my theoretical knowledge and practical skills. It provided a comprehensive understanding of how multi-axis machines operate, how to control the quality of parts, and how to apply these concepts in real-world machining projects. The hands-on experience, combined with the review and feedback, has given me a solid foundation to pursue further work in PCB machining and manufacturing.

SUMMARY OF THE INTERNSHIP:

The internship took place at Max Automation in Coimbatore, where Vignesh N, a student of Electronics and Communication Engineering from SNS College of Engineering, underwent a 21-day training program from July 8 to July 31, 2024. The focus was on gaining in-depth knowledge and hands-on experience in PCB (Printed Circuit Boards) machines, including operations, programming, and maintenance.

Key Learning Outcomes:

- Vignesh gained a comprehensive understanding of PCB machine components, including PCB milling, drilling, and multi-axis machines.
- He received practical training in setting up, programming, and operating PCB machines.
- The internship provided exposure to CAD software, enhancing skills in part design and CAD programming.
- Troubleshooting and maintenance of PCB machines were core components of the training.
- Vignesh also explored G-code techniques and quality control processes in PCB machining.

The training enabled him to work on real-time projects involving PCB hardware components, improving his technical and problem-solving abilities in industrial settings. This exposure enhanced his knowledge of machine operations and maintenance protocols.

Company Profile: Max Automation specializes in offering services and products to micro, small, and medium enterprises, with a focus on PCB manufacturing and electronic applications. The company provided Vignesh with the tools and resources necessary to expand his knowledge of PCB machine operations, furthering his technical expertise in the field.

The internship was supervised by Mr. Anver Basha (Industry Supervisor), and guided by Dr.K.Jagadeesh (Faculty Guide from SNSCE), who supported Vignesh throughout the learning process. The company played a significant role in honing his skills, particularly in PCB machine operations and maintenance.

****

SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107

AN AUTONOMOUS INSTITUTION

Accredited by NAAC–UGC with 'A' Grade

Approved by AICTE, New Delhi & Affiliated to Anna University,Chennai

Kurumbapalayam (Po), Coimbatore – 641 107

Internship Report - 2023-2024

Name of the Student : VIGNESH N

Register Number : 713322EC058

Branch : Electronics and Communication Engineering

Year : 2023-2024

Faculty Guide from SNSCE :Dr.K.Jagadeesh

Designation : Associate Professor

Company guide : Mr.S.Anver Basha

Designation : Industry Supervisor

Name of the Company : Max Automation

Period of Internship Training: 21 Days

DO'S AND DON'T'S:

Do's and Don't's for the students during Internship

Your attitude and discipline should be exemplary. You should remember that you are an Ambassador of SNS College of Engineering when you are working as a trainee. Placement for training of students in Future will depend upon the image created by you. Maintain good relations with the company authorities.

1. Maintain excellent relations with all and particularly with your supervisor.
2. Be punctual and regular. In case of difficulties, approach your supervisor.
3. Write your diary daily and show it to your supervisors whenever they demand.
4. Permit for your physical check by the security men of the organization, if required.
5. Maintain good health throughout the training.
6. Show exemplary behavior by observing the manners and etiquettes.
7. Always carry Identity Card and produce the same on demand.
8. Do not disturb the workers in their work and do not enter into any discussion with them.
9. Do not record any information or copy out any drawing theory without prior and proper permission.
10. Do not operate any instrument/machine/apparatus without specific instruction of your supervisor and without his supervision.
11. Do not carry any valuable and unauthorized gazettes.

ABOUT THE NATIONAL SMALL INDUSTRIES CORPORATION:

National Small Industries Corporation (NSIC), is an ISO 9001:2015 certified Government of India Enterprise under Ministry of Micro, Small and Medium Enterprises (MSME). NSIC has been working to promote, aid and foster the growth of micro, small and medium enterprises in the country. NSIC operates through countrywide network of offices and Technical Centers in the Country. In addition, NSIC has set up Training cum Incubation Centre managed by professional manpower.

Mission: "To promote and support Micro, Small & Medium Enterprises (MSMEs) Sector" by providing integrated support services encompassing Marketing, Technology, Finance and other services.

Vision: "To be a premier Organization fostering the growth of Micro, Small and Medium Enterprises (MSMEs) Sector".

Schemes of NSIC

NSIC facilitates Micro, Small and Medium Enterprises with a set of specially tailored scheme to enhance their competitiveness. NSIC provides integrated support services under Marketing, Technology, Finance and other Support service.

ORGANIZATION AND ADMINISTRATION

Single point Registration for Government Purchase

NSIC enlists Micro & Small Enterprises (MSEs) under Single Point Registration scheme (SPRS) for participation in Government Purchases. The units enlisted under Single Point Registration Scheme of NSIC are eligible to get the benefits under Public Procurement Policy for Micro & Small Enterprises (MSEs) Order 2012 as notified by the Government of India, Ministry of Micro Small & Medium Enterprises, New Delhi vide Gazette Notification dated 23.03.2012 and amendment vide order no. S.O. 5670(E) dated 9th November 2018. The enlistment under SPRS is completely online. Login: www.nsicspronline.com

- Issue of the Tender Sets free of cost.
- Exemption from payment of Earnest Money Deposit (EMD),
- In tender participating MSEs quoting price within price band of L1+15 per cent shall also be allowed to supply a portion up to 25% of requirement by bringing down their price to L1 Price, where L1 is non MSEs.
- Consortia facility for Tender Marketing.

MSME Global Mart B2B Web Portal for

MSMEs

Information today is becoming almost as vital as the air we breathe. We need it every minute of our working lives. With increase in competition and melting away of international boundaries, the demand for information is reaching new heights. NSIC, realizing the needs of MSMEs, is offering Infomediary Services which is a one-stop, one-window bouquet of aids that will provide information on business,

technology and finance, and also exhibit the core competence of Indian SMEs through digital presence. The corporation is offering Infomediary Services through its MSME Global Mart www.msmemart.com; which is a Business to Business (B2B) web portal. The services are available through Annual Membership.

- Create your Company's Web Page in minutes
- Display Products & Services 24*7
- Connect with Buyers & Suppliers Globally
- Information’s on Events & Exhibitions
- Keyword based Unlimited Tender Alert
- Franchise & Distributorship Opportunities
- Request For Quotations
- Trade Leads
- Platform to Buy/Sell Used Machinery
- Service Available in Multiple Language
- Free Membership for SC/ST Entrepreneurs for one year

Technology Support

Technology is the key to enhancing a company's competitive advantage in today's dynamic information age. Small enterprises need to develop and implement a technology strategy in addition to financial, marketing and operational strategies and adopt the one that helps integrate their operations with their environment, customers and suppliers.

NSIC offers small enterprises the following support services through its Technical Services Centers and Extension Centers:

1. Advise on application of new techniques
2. Material testing facilities through accredited laboratories
3. Product design including CAD
4. Common facility supports in machining, EDM, CNC, etc.
5. Energy and environment services at selected centers
6. Classroom and practical training for skill upgradation

NSIC Technical Services Centers are located at the following places:

Name of the Centre	Focus area
Chennai	Leather & Foot ware
Howrah	General Engineering
Hyderabad	Electronics & Computer Application
New Delhi	Machine Tools & related activities
Rajkot	Energy Audit & Energy Conservation activities
Rajpura (Pb)	Domestic Electrical Appliances
Aligarh (UP)	Lock Cluster & Die and Tool making
Neemka (Haryana)	Machine Tools & related activities

International Cooperation

NSIC facilitates sustainable international partnerships. The emphasis is on sustainable business relations rather than on one-way transactions. Since its inception, NSIC has contributed to strengthening enterprise-to-enterprise cooperation, south co-operation and sharing best practices and experiences with other developing countries, especially those in the African, Asian and Pacific regions. The features of the scheme are:

1. Exchange of Business / Technology missions with various countries.
2. Facilitating Enterprise to Enterprise cooperation, JVs, Technology Transfer& other form of sustainable collaboration.
3. Explore new markets & areas of cooperation:
4. Identification of new export markets by participating in sector- specific exhibitions all over the world.
5. Sharing of Indian experience with other developing countries

INTERNSHIP REPORT:

S. NO	DATE	TOPIC	OUTCOME OF THE TOPIC	GUIDE SIGN
1.	08/07/2024	Introduction to CNC Machines	Gained an overview of CNC Machines	
2.	09/07/2024	Safety Protocols in CNC Operations	Learned about Safety Measures	
3.	10/07/2024	CNC Machine Components	Understood the Functions of the Key Components	
4.	11/07/2024	Introduction to G-Code	Learned basic G-Code commands	
5.	12/07/2024	CNC Machines Setup Procedures	Understood setup and calibration processes	
6.	13/07/2024	Basic Maintenance of CNC Machines	Learned routine maintenance tasks	
7.	15/07/2024	Introduction to CAD Software	Gained Knowledge about CAD Software	
8.	16/07/2024	Practical Training with CAD Software	Designed simple parts using CAD Software	
9.	17/07/2024	Basic CNC Machine Programming	Gained Knowledge in CNC programs	
10.	18/07/2024	CNC Machine Operation	Acquired knowledge about Machine Operations	
11.	19/07/2024	Troubleshooting Common Issues	Learned to identify and fix common CNC issues	
12.	20/07/2024	G-Code Techniques	Gained Knowledge about G-Code Techniques	
13.	22/07/2024	Introduction to CNC Drilling Machines	Gained Knowledge about CNC Drilling Operations	
14.	23/07/2024	Practical Training with CNC Drills	Operated CNC Drills	
15.	24/07/2024	Introduction to CNC Milling Machines	Understood the Operations of CNC Milling	
16.	25/07/2024	Practical Training with CNC Milling Machines	Practiced CNC Milling Operations	
17.	26/07/2024	Introduction to Multi – Axis CNC Machines	Learned about multi-axis CNC machines	
18.	27/07/2024	Practical Training with Multi – Axis CNC Machines	Operation of multi-axis CNC machines	
19.	29/07/2024	CNC Machine Quality Control	Learned About Quality Control Processes in CNC Machining	
20.	30/07/2024	CNC Machine Project	A Project Involving in CNC Machining	
21.	31/07/2024	Review and Feedback Session	Received feedback and discussed learning Outcomes	

LEARNED FROM INTERNSHIP:

Depth knowledge about the CNC Machines and the virtual software for CNC Operations (Milling, Drilling) and Maintenance of the CNC Machines. I have enhanced the technical skills by means of real time projects with the hardware components and acquired the testing skill.

COMPANY PROFILE:

COMPANY PROFILE	Website link
Name of the Company	Max Automation Coimbatore
Contact Person	Mr.Anver Basha
Address with phone,	2/386/5,Near Shanthi Gears(C)Unit,Kurumbapalayam, Coimbatore - 641402. E-mail : maxautomationcbe95@gmail.com Phone: 9894764498
Product Type	Micro, Small, Medium Enterprises
Applications	Wide range of electronic use in PCB

ACKNOWLEDGEMENT:

I wish to express our heartfelt gratitude towards the company as I permitted to undergo internship for the period of 3 weeks from 08-07-2024 to 31-07-2024. I also thank resource person Mr.Anver Basha for making me to understand and learn regarding the Industrial Based CNC Machines Operations in Electronics.

I also thank our Principal, Head of the Department, IIPC Coordinator and our faculty guide for permitting me to attend the internship in a right manner to enrich my skills.

Name of the Student	Student Coordinator	Faculty Coordinator
(Vignesh N)	(Architha Sree L K)	(Ms.K.Sangeetha)

IIPC Coordinator	HoD	Principal
(Mr.C.Gokul Prasad)	(Dr.P.Gnanasundari)	(Dr.S.Charles)