



SHAHAJIRAOPATILVIKASPRATISHTHAN
S.B.PATIL COLLEGE OF ENGINEERING, INDAPUR, DIST: PUNE.
DEPARTMENT OF ELECTRONICS & TELECOMMUNICATION ENGINEERING

ACA- R-49

Academic Year: 2025-26

Rev:00

Industrial Visit Report

Date:03.07.2017

Semester: I

Ref: SPVP/SBPCOE/E&TC/2025-26

Date:-06/10/2025

To,
The Principal,
SBPCOE, Indapur.

Subject: - Industrial Visit Report "APTRON TECH ELECTRONICS, MIDC Satara on dated 03/10/2025.

Respected sir,

With reference to aforesaid subject Electronics and Telecommunication Department of S. B. Patil College of Engineering, organized one day Industrial visit "Aptron Tech Electronics", Satara on 03/10/2025. Along with staff members Dr. A.S.Shrikande, Prof. S.R.Jadhav, Prof. S.V.Patil, Mr. Padmakar parkale (E&TC) Department. 49 students from the Third year were participated in the visit.



1.Mr.Pravin Mohite Sir Addressing our students Aptron Tech Electronics, Satara.



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Visit was organized with the prior permission and under guidance of honorable Dr. S. T. Shirkande Sir (Principal, SBPCOE), Prof. V.U. Bansude (HOD, E&TC), Prof P.S.Togrikar & Mr. Sandip Shingade our TE student taken efforts in planning and arranging this highly successful visit.

Objectives:

- Students should understand the complete PCB manufacturing process.
- Students should Gain exposure to industry-standard tools and software
- Students should Learn about Design for Manufacturability

About the company:

Aptron Tech Electronics, Satara skilled PCB manufacturing company in Satara. The prime Electronics services have dedicated to explore a society with technical Innovations. It provides PCB for Dongal of multiple Industries.

First of all Third year students had welcome by Mr.Pravin Mohite sir also give idea about **Aptron Tech Electronics, Satara.** & conveyed the complete schedule to our students regarding visit also safety officer had aware our students about rules and regulation which need to follow during in plant visit. Sir Explained about PCB manufacturing Process, types of PCB, Machine use for manufacturing.

Types of PCB

- Single-Sided PCBs
- Double-Sided PCBs
- Multilayer PCBs
- Rigid PCBs
- Flex PCBs
- Rigid-Flex PCBs

PCB Manufacturing Process Steps

Step 1: Design and Output

Circuit boards should be rigorously compatible with, a PCB layout created by the designer using PCB design software.

Commonly-used PCB design software includes Altium Designer, OrCAD, Pads, KiCad, Eagle.



Step 2: From File to Film

PCB printing begins after designers output the PCB schematic files and manufacturers conduct a DFM check. Manufacturers use a special printer called a plotter, which makes photo films of the PCBs, to print circuit boards. Manufacturers will use the films to image the PCBs. Although it's a laser printer, it isn't a standard laser jet printer. Plotters use incredibly precise printing technology to provide a highly detailed film of the PCB design.

Step 3: Printing the Inner layers

The creation of films in previous step aims to map out a figure of copper path. The basic form of PCB comprises a laminate board whose core material is epoxy resin and glass fiber that are also called substrate material.

Step 4: Removing the Unwanted Copper

With the photo resist removed and the hardened resist covering the copper we wish to keep, the board proceeds to the next stage: unwanted copper removal. Just as the alkaline solution removed the resist, a more powerful chemical preparation eats away the excess copper.

Step 5: Layer Alignment and Optical Inspection

With all the layers clean and ready, the layers require alignment punches to ensure they all line up. The registration holes align the inner layers to the outer ones.

Step 6: Drill

Finally, holes are bored into the stack board. All components slated to come later, such as copper-linking via holes and leaded aspects, rely on the exactness of precision drill holes. The holes are drilled to a hair's-width - the drill achieves 100 microns in diameter, while hair averages at 150 microns.

Step 7: Plating and Copper Deposition

After drilling, the panel moves onto plating. The process fuses the different layers together using chemical deposition. After a thorough cleaning, the panel undergoes a series of chemical baths.

Step 8: Final Etching

The tin protects the desired copper during this stage. The unwanted exposed copper and copper beneath the remaining resist layer undergo removal.

Step 9: Electrical Test

As a final precaution, a technician performs electrical tests on the PCB. The automated procedure confirms the functionality of the PCB and its conformity to the original design.

Outcomes:

- Students have understood the complete procedure about PCB designing & Application of PCB.



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- Students have understood types of PCB and where to apply,



2.Mr.Pravin Mohite Sir Guided our students about PCB designing.

To make this Industrial Visit successful 49 students along with 04 faculty members were present. As a coordinator of this event I would like to thank Mr. Pravin Mohite (Owner) without whom this educational visit was not possible.

Also I would like to thank our Management for providing encouraging us to plant such educational visits, Dr.S.T.Shirkande, Principal, Prof.V.U.Bansude HOD E&TC Department and our student volunteers Mr.Sandip Shingade for their continuous efforts to organize and make successful this visit.

Thanking you

Prof. P.S.Togrikar

Industrial Visit Coordinator

Prof. V. U. Bansude

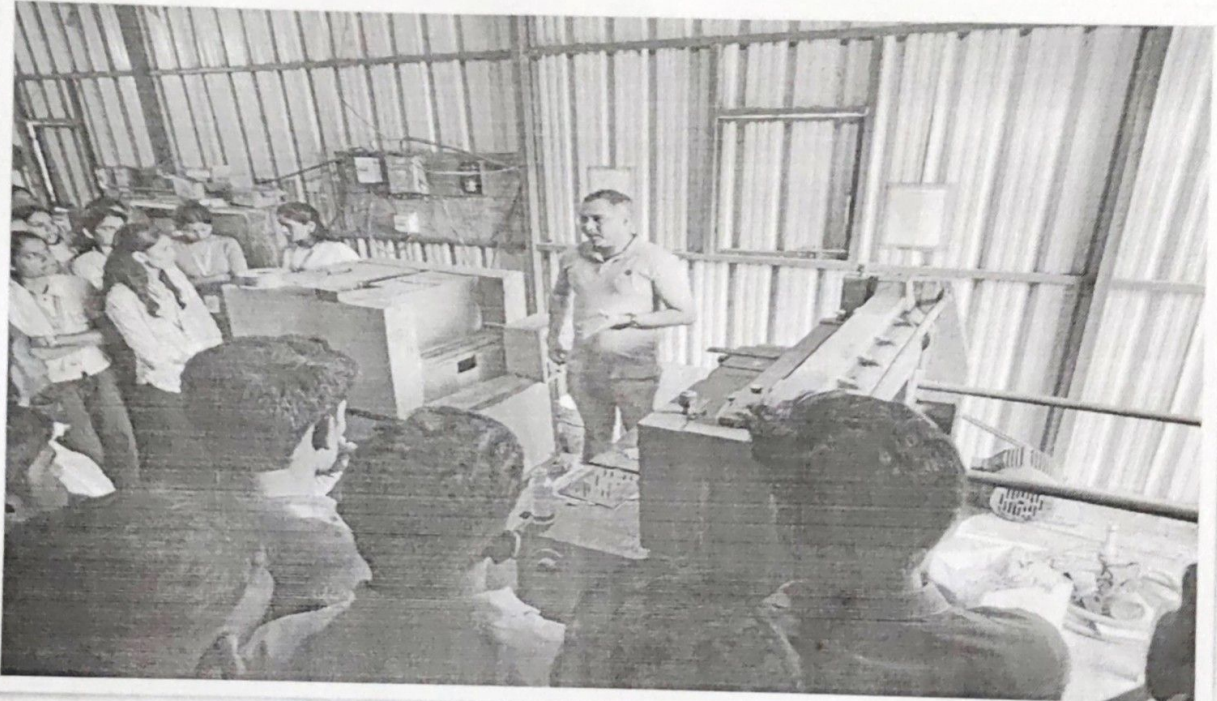
Head, E&TC Department



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Snapshots of the visit:





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