



**'THE SHETKARI SHIKSHAN MANDAL'**  
**BHIVARABAI SAWANT COLLEGE OF ENGINEERING & RESEARCH,**  
**Accredited by NAAC with 'A' Grade.**

(Approved by A.I.C.T.E. & Govt. of Maharashtra and affiliated to Savitribai Phule Pune University.)  
 West/1-3669721/2010 New dated 13 Jul 2010

**Dr. T. J. Sawant**  
 BE(Elec) PGDBM, Ph. D  
**PRESIDENT**

S.No.12/1/2 & 12/2/2, Narhe, Taluka-Haveli, Pune-411041  
**Phone:** +91-020-24608500/01 **Website:** www.tssm.edu.in  
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**Dr. G. A. Hinge**  
 Ph. D LMISH  
**PRINCIPAL**

## 6.5.2: Quality assurance initiatives of the institution

List of Collaborative quality initiatives with other institutes along with brochures and geo tagged photos with caption and date.

| Sr.No. | Documents                                                                                         | Digital Page No. |
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| 1      | Name of the MoU / linkage                                                                         | 2                |
| 1      | List of collaborative quality initiative with other institution                                   | 5                |
| 2      | Sample Event Summary Report Industry Institute Interaction                                        |                  |
| 2.1    | PBL Workshop (Hands-On Training on PCB Design and Prototyping) (under MoU: Yasahshwi Electronics) | 9                |
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**Principal,**  
**BSOER,Pune.**  
**PRINCIPAL**  
**TSSM's Bhivarabai Sawant College**  
**of Engineering & Research**  
**Narhe, Pune - 411 041**



**Prof.Dr.T.J.Sawant**  
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6.5.2: Quality assurance initiatives of the institution List of Collaborative quality initiatives with other institution(s) along with brochures and geo-tagged photos with caption and date.

**Supporting Documents as per SOP:**

| Sl. No. | Name of the MoU / linkage            | Purpose of the MoU/Linkage                                                               | List of Activities                                                                                         | Link                       |
|---------|--------------------------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|----------------------------|
| 1       | NET Gyani IT Services Privet Limited | Sharing in advanced computing such as cloud, Mobile,Analytics, Big data,Hadoop           | bridge gap between Industry and academics                                                                  | <a href="#">Click Here</a> |
| 2       | KasNet Technology Pvt.Ltd.           | Motivate and groom students to drive our mission of enriching India Through innovation   | Enable students to participate and laurels at national and international level conferences/Seminar/Contest | <a href="#">Click Here</a> |
| 3       | ARMOR Antivirus                      | To enhance Project based learning and Industry interaction                               | Technical workshop/ promotional workshop with in Scope of MOU                                              | <a href="#">Click Here</a> |
| 4       | Palo Alto Networks                   | To provide classroom instruction and Technical training Related to Palo Alto Networks    | enhance technical skills of students                                                                       | <a href="#">Click Here</a> |
| 5       | Mythos Technology                    | Technological Research, Innovation, Patent Formulation and job opportunities             | Bringing a holistic thinking in students                                                                   | <a href="#">Click Here</a> |
| 6       | Red Hat                              | Upgrade the technical skills of students                                                 | Provide the project based learning environment to students at Industry.                                    | <a href="#">Click Here</a> |
| 7       | Trishta                              | MOU is for the purpose of providing various Testing services.                            | To transform research outcomes into prototype and facilitate technology transfer for product development   | <a href="#">Click Here</a> |
| 8       | Bit Advance Processing Unit          | to enhance the quality of engineering education                                          | enhance technical skills of students                                                                       | <a href="#">Click Here</a> |
| 9       | Jamboree Education (P) Ltd.          | Conduct special lectures/workshop on guidance for higher studies for students at campus. | Enable students to participate in GATE,GRE,TOFFEL,IELTS                                                    | <a href="#">Click Here</a> |
| 10      | MASS Technologies                    | to enrich the technical education in new subject areas                                   | . Increase employability by providing technical and soft skills training.                                  | <a href="#">Click Here</a> |



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|    |                                    |                                                                                                                                                                                                                                               |                                                                                                                                                              |                            |
|----|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| 11 | Smart Logic Technologies           | Increase employability by providing technical and soft skills training in IOT field                                                                                                                                                           | Provide the project based learning environment to students at Industry.                                                                                      | <a href="#">Click Here</a> |
| 12 | Spaarta Soft Technology Solutionss | Bridge Industry Institute relationship by Providing technical platform of discussion                                                                                                                                                          | enhance technical skills of students/faculties in the field of VLSI Design                                                                                   | <a href="#">Click Here</a> |
| 13 | Synergy Solutions,Pune             | Upgrade the technical skills of students by providing Internship.                                                                                                                                                                             | Provide the project based learning environment to students at Industry.                                                                                      | <a href="#">Click Here</a> |
| 14 | Yashaswi Electronics               | MOU is for the purpose of enriching the technical education in new subject areas, teaching-learning process and to jointly work for enhancing the quality education being imparted to Electronics and Telecommunication Engineering students. | Bridge Industry Institute relationship by Provide technical platform of discussion 2. Provide the project based learning environment to students at Industry | <a href="#">Click Here</a> |
| 15 | Go Green Technology                | Increase employability by providing technical and soft skills via student training program                                                                                                                                                    | Provide Placement to students and to Enhance skill of the Students                                                                                           | <a href="#">Click Here</a> |
| 16 | Adhyaay Academy and groups         | Increase employability by providing technical and soft skills via student training program                                                                                                                                                    | enhance technical skills of students/faculties                                                                                                               | <a href="#">Click Here</a> |
| 17 | PioneerTechnical Training centre   | Provide the project based learning environment to students at Industry                                                                                                                                                                        | enhance technical skills of Embedded Testing and Designing                                                                                                   | <a href="#">Click Here</a> |



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|    |                                                                                                                                                                        |                                                                                                                    |                                                                          |                            |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|----------------------------|
| 18 | Dhanandeep Automation                                                                                                                                                  | Bridge Industry Institute relationship by Provide technical platform of discussion                                 | Enhance technical skills of students/faculties in the field of PLC SCADA | <a href="#">Click Here</a> |
| 19 | Progress Powercon Ltd                                                                                                                                                  | Upgrade the technical skills of students by providing Internship and Industry visit                                | Placement and Skill Enhancement                                          | <a href="#">Click Here</a> |
| 20 | District skill development, Employment and Entrepreneurship guidance Center, Pune and Acharya chanakya kaushalya vikas Kendra, Training Partner – TSSM'S BSCOER, Narhe | Training to candidates for the purpose of meeting the skill gap in the state of Maharashtra Under ACKVK Initiative | To conduct Training for selected candidates                              | <a href="#">Click Here</a> |





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**List of Collaborative quality initiatives with other institutes along with brochures and geo tagged photos with caption and date**

| <b>2023-24</b>                                                                                                                                  |                                        |                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|-------------------------------------------|
| <b>Item / Title of quality Initiative by IQAC</b>                                                                                               | <b>Date &amp; Duration</b>             | <b>No. of Participants/ Beneficiaries</b> |
| PBL Workshop (Hands-On Training on PCB Design and Prototyping) (under MoU: Yasahshwi Electronics)                                               | 05/03/2024 -09/03/2024<br>(5 days)     | 75                                        |
| Advanced Network of Things _Cloud/ SASE Security (under MoU: HCL Technologies)                                                                  | 04/03/2024 -09/03/2024<br>(One Week)   | 120                                       |
| Industry Ready core and Advanced JAVA Programming                                                                                               | 31/01/2023/13/03/2023<br>(60 hrs)      | 57                                        |
| Industrial Visit at The Maharashtra MSME Defense Expo                                                                                           | 25/02/2024                             | 60                                        |
| Industrial Visit at MAHAGENCO Solar Power Plant, Shirsuphal, Baramati                                                                           | 27/10/2023                             | 79                                        |
| FDP on "Implementing IoT & Machine Learning Application on Raspberry Pi" (under MoU: Smart Logic Pvt Ltd.)                                      | 03/07/203 to 07/07/2023<br>(one week)  | 400                                       |
| FDP on "Next-Generation Nano-electronics Devices, Circuits and its Applications using EDA tools" (under MoU: Spaarta Soft Technology Solutions) | 17/07/203 to 21/07/2023                | 45                                        |
| Introduction to Raspberry Pi Programming                                                                                                        | 04/03/2024 - 09/03/2024<br>(30 hrs)    | 71                                        |
| Soft Skill & Interview preparation training Program                                                                                             | 10/07/2023 to 13/07/2023<br>(4 days)   | 21                                        |
| Company Specific Aptitude Training                                                                                                              | 17/07/2023 to 22/07/2023<br>(one week) | 19                                        |
| Recent Advancements In Electrical Engineering                                                                                                   | 21-11-23 to 25-11-23<br>(5 days)       | 20                                        |
| PMC HOT MIX PLANT (Industrial Visit)                                                                                                            | 05/10/2023                             | 60                                        |
| CONSTRO 2024                                                                                                                                    | 4/01/2024 to 7/01/2024<br>(4 days)     | 30                                        |
| <b>2022-23</b>                                                                                                                                  |                                        |                                           |



  
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|                                                                                         |                                      |     |
|-----------------------------------------------------------------------------------------|--------------------------------------|-----|
| Hands on Training on "Xilinx ISE Design suit for Digital Design Flow"                   | 01-11-2022 to 03-11-2022<br>(3 days) | 13  |
| 2 days FDP on "Initiative for Center of Excellence through advances in Embedded System" | 12-05-2023 to 13-05-2023<br>(2 days) | 19  |
| One day student training program on "Exploring Embedded Systems for IoT applications"   | 10/02/2023<br>(1 day)                | 63  |
| Introduction to Internet of Things                                                      | 13/03/2023 to 17/03/2023<br>(30 hrs) | 65  |
| Entrepreneurship & Product Development                                                  | 18-03-2023<br>(1 day)                | 54  |
| Internet of Things                                                                      | 10-02-2023 To 14/02/2023<br>(5 days) | 65  |
| Recent Trends in Solar Technology                                                       | 19/09/2022 to 23/09/2022<br>(5 days) | 72  |
| "Introduction of CADD Software's in Civil Engineering BY CADD Centre                    | 28/07/2023                           | 55  |
| Fundamentals of 3D printing technology                                                  | 06/02/2023                           | 145 |
| <b>2021-22</b>                                                                          |                                      |     |
| Five days STP on "Internet of Things using Arduino"                                     | 8/02/2022 to 12/02/2022<br>(30 hrs)  | 63  |
| Five days STP on "Advances in e-vehicles"                                               | 15/02/2022 to 19/02/2022             | 72  |
| Road Map to Become a Data Scientist                                                     | 23-04-22 to 24-04-22<br>(2 Days)     | 55  |
| Guest Lecture under alumni connect on Opportunities in IT Service industry              | 28/02/2022                           | 57  |
| Guest lecture under alumni connect on How to become data analyst                        | 14/03/2022                           | 56  |
| Guest lecture on Opportunities in Embedded Systems                                      | 12/04/2022                           | 37  |
| Requirement of Soft Skills in Engineering                                               | 31/03/2022                           | 75  |
| Creative Use of ICT Tools: Towards Innovative Learning Solutions                        | 02/05/2022                           | 09  |
| Internet of Things using Arduino                                                        | 25-02-2022 to 01/06/2022             | 72  |
| Software Testing center of excellence                                                   | 15/10/2021 to 19/10/2021             | 36  |



  
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|-------------------------------------------------------------------------------------------------------------------------|----------------------------------------|-----|
| Raspberry Pi Programming                                                                                                | 18/08/2020 to 22/08/2020               | 40  |
| 3D Printing                                                                                                             | 14/10/2020 to 18/10/2021               | 57  |
| MATLAB and SIMULINK                                                                                                     | 16/02/2022 to 20/02/2022               | 71  |
| Introduction to Electric Hybrid Vehicle                                                                                 | 08/02/2022 to 12/02/2022               | 62  |
| Auto -Cad                                                                                                               | 10/02/2022 to 14/02/2022               | 120 |
| <b>2020-21</b>                                                                                                          |                                        |     |
| Workshop: "Hands on Training on Modern antennas, RF and Microwave Designs"                                              | 08-02-2021 to 10-02-2021<br>(3 days)   | 25  |
| FDP on Cloud Computing and Its Applications                                                                             | 22-03-2021 to 26-03-2021<br>(5 days)   | 41  |
| Workshop on Patent Publish and Grant                                                                                    | 11-02-2021 to 13-02-2021<br>(3 days)   | 35  |
| Technical Skills Required during an interview                                                                           | 22/10/2020                             | 71  |
| Advanced Electrical vehicle Technology training program                                                                 | 17-08-2020 to 18-08-2020               | 16  |
| Recent Trends and Development in Civil Engineering                                                                      | 16-07-2021 to 17-07-2021               | 21  |
| Advances in survey Equipment's                                                                                          | 16-08-2021 to 17-08-2021               | 23  |
| Introduction to MS Word And MS -Excel.                                                                                  | 16-09-2021 to 17-09-2021               | 08  |
| <b>2019-20</b>                                                                                                          |                                        |     |
| Workshop on Bluetooth controlled Robot using Arduino                                                                    | 20/02/2020 to 24/02/2020<br>(30 hrs)   | 36  |
| Software Testing                                                                                                        | 10/02/2020                             | 35  |
| Expert Lecture on "Additive Manufacturing"                                                                              | 19/09/2019                             | 30  |
| Expert Lecture on "HVAC"                                                                                                | 17/09/2019                             | 30  |
| Industrial visit, Chaskaman Power Plant, Bibi, Maharashtra 410513                                                       | 19/09/2019                             | 30  |
| Q GIS                                                                                                                   | 12/07/2019 To 20/07/2019<br>(one week) | 60  |
| Techcellance -2023<br>Project competition on "Current trends in technology" under the head Project Based Learning - PBL | 12/01/2019                             | 78  |
| Additive Manufacturing                                                                                                  | 19/09/2019 To 23/09/2019               | 50  |



  
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|                                          |                                     |    |
|------------------------------------------|-------------------------------------|----|
|                                          | (30hrs)                             |    |
| Geometric Dimensions and Tolerances      | 06/02/2020 To 10/02/2020<br>(30hrs) | 40 |
| Heating Ventilation and Air-conditioning | 17/09/2019 To 21/09/2019<br>(30hrs) | 70 |
| Piping Design                            | 23/09/2019 To 27/09/2019<br>(30hrs) | 50 |

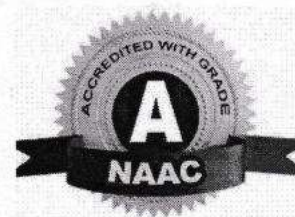


  
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**Report of One Week Student Training Program on**  
**“Hands-On Training on PCB Design & Prototyping”**

**Organized by**  
**Department of Electronics & Telecommunication Engineering**

**Funded By**  
**ICT CSR**

**Convener**

**Dr. P. N. Shinde**  
**HOD, E&TC Department**

**Coordinator**

**Prof. V. C. Bavkar**  
**Prof. P. A. Patil**  
**Assistant Professor, E&TC Department**

**Resource Persons**

**Mr. Kiran Ishtake**  
**Mr. Rohit Kulkarni**  
**Mr. Ajay Nagpure**  
**Yashaswi Electronics**



- **Importance of PCB for Electronics:**

Printed Circuit Boards (PCB) are the backbone of most electronic devices, they're in everything from your phone to your computer.

**What is PCB-** A printed Circuit Board (PCB), is an electronic board with metal circuits embedded in it that connect different components on the device. It consists of layers that are etched separately then laminated together to form patterns known as traces.

These patterns are where signals travel through the board and carry information between different parts of the circuit. The boards come in many shapes and sizes depending on what they will be used for – some have holes drilled into them while others might only need small pads to connect components.

The electronics that are built on the PCBs connect to the board via solder pads, which come in two different flavours – through-hole and surface mount. Through-hole refers to components that have wires or pins that pass through holes drilled into the circuit board while board-mounted devices, typically SMDs, are attached on top of a pad by melted solder.

Both ways of connecting components have their pros and cons, but for the most part, through-hole is becoming less common due to its size and weight, while SMDs are becoming more popular because they're smaller and faster.

- **Objectives:**

The following are the specific objective of this Student Training Program.

- To introduce students to the fundamentals of PCB design and its importance in electronic product development.
- To familiarize students with PCB design software tools and techniques.
- To provide hands-on experience in creating schematic diagrams and PCB layouts.
- To teach students about prototyping methods and best practices.
- To instil an understanding of design for manufacturability principles.

**Schedule for One Week STP on " Hands-On Training on PCB Design & Prototyping"**

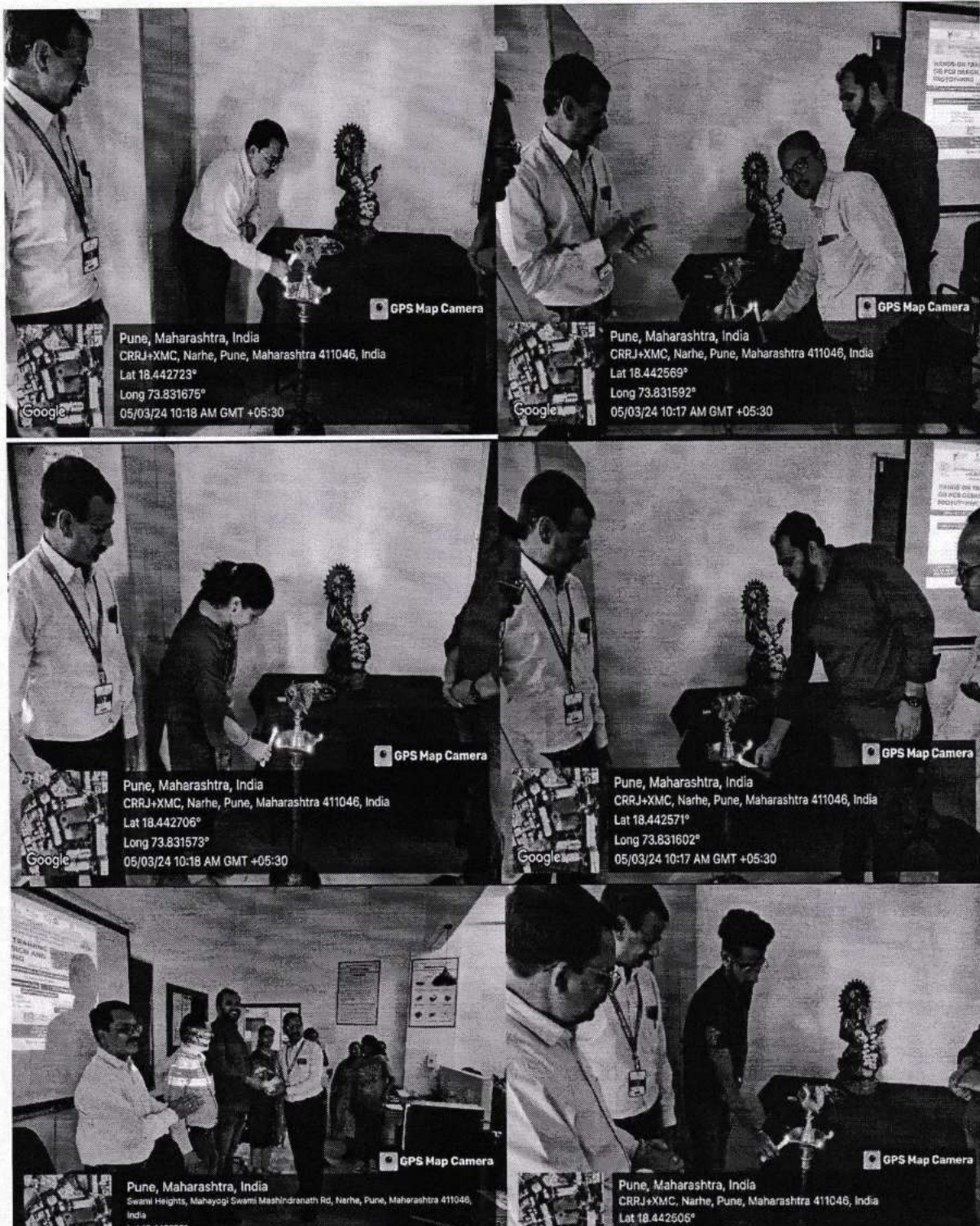
| Date       | Day       | Session   | Resource Person    | Time             | Topic                                                                                                                                                                                |
|------------|-----------|-----------|--------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 05/03/2024 | Tuesday   | Morning   | Mr. Rohit Kulkarni | 10.00 am-1.00 pm | Introduction to PCB & its importance, Types of PCB & its applications.                                                                                                               |
|            |           | Afternoon |                    | 2.00 pm-5.00 pm  | Introduction to PCB design software tools, Basic concepts of schematic design                                                                                                        |
| 06/03/2024 | Wednesday | Morning   | Mr. Rohit Kulkarni | 10.00 am-1.00 pm | Creating schematic diagrams using Eagle software                                                                                                                                     |
|            |           | Afternoon |                    | 2.00 pm-5.00 pm  | Component selection and footprint creation<br>Schematic review and Hands-on practice on creating schematic                                                                           |
| 07/03/2024 | Thursday  | Morning   | Mr. Rohit Kulkarni | 10.00 am-1.00 pm | PCB Layout Design<br>Translating schematics into PCB layouts, Placement of components and routing of traces                                                                          |
|            |           | Afternoon |                    | 2.00 pm-5.00 pm  | Ground/power plane design and signal integrity considerations                                                                                                                        |
| 09/03/2024 | Saturday  | Morning   | Mr. Ajay Nagpure   | 10.00 am-1.00 pm | Introduction to PCB manufacturing Process,<br>Introduction of equipment's                                                                                                            |
|            |           | Afternoon |                    | 2.00 pm-5.00 pm  | Prototyping techniques: PCB milling, 3D printing<br>Hands-on PCB fabrication session , project work in teams finalizing PCB designs<br>Presentation of projects and feedback session |



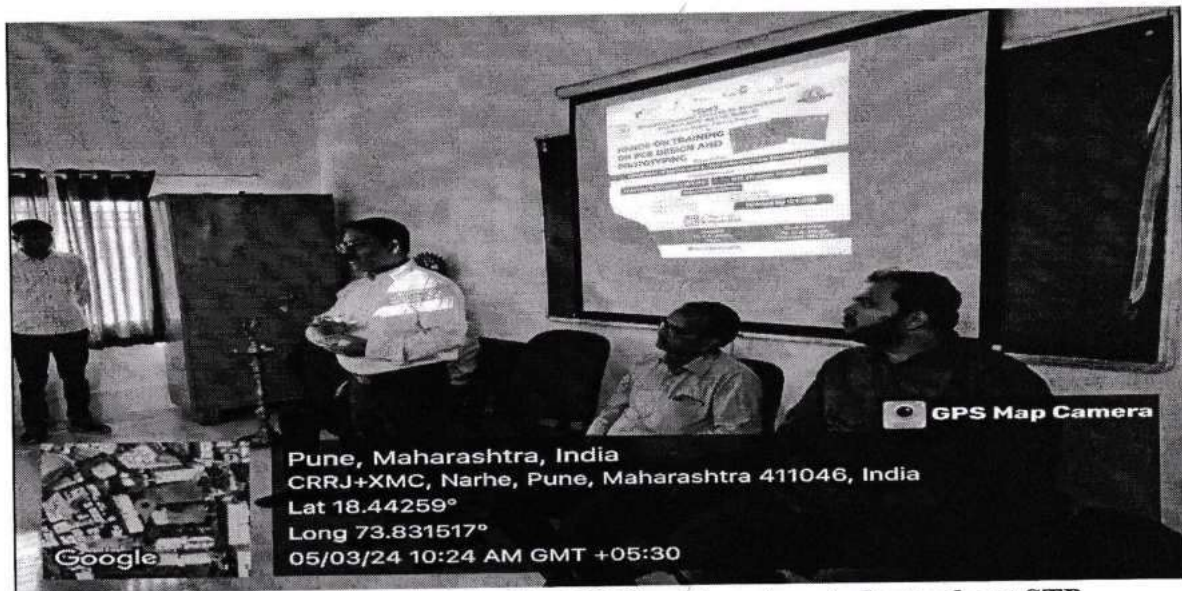
- **Inaugural Ceremony:**

The Inaugural ceremony of this workshop was started by welcome speech given by student Vipul Mahajan. As our Indian tradition, every activity starts with worshipping goddess Saraswati, who is considered the embodiment of knowledge, music, arts, and wisdom. After lamp lightning ceremony **Dr. P. N. Shinde, HOD**, felicitated the Chief Guest **Mr. Kiran Ishtake, Mr. Rohit Kulkarni & Mr. Ajay Nagpure** from Yashaswi Electronics Private Limited. Inaugural ceremony ends with vote of thanks given by **Prof. V.C. Bavkar**.

**Glimpses of Inauguration Ceremony**







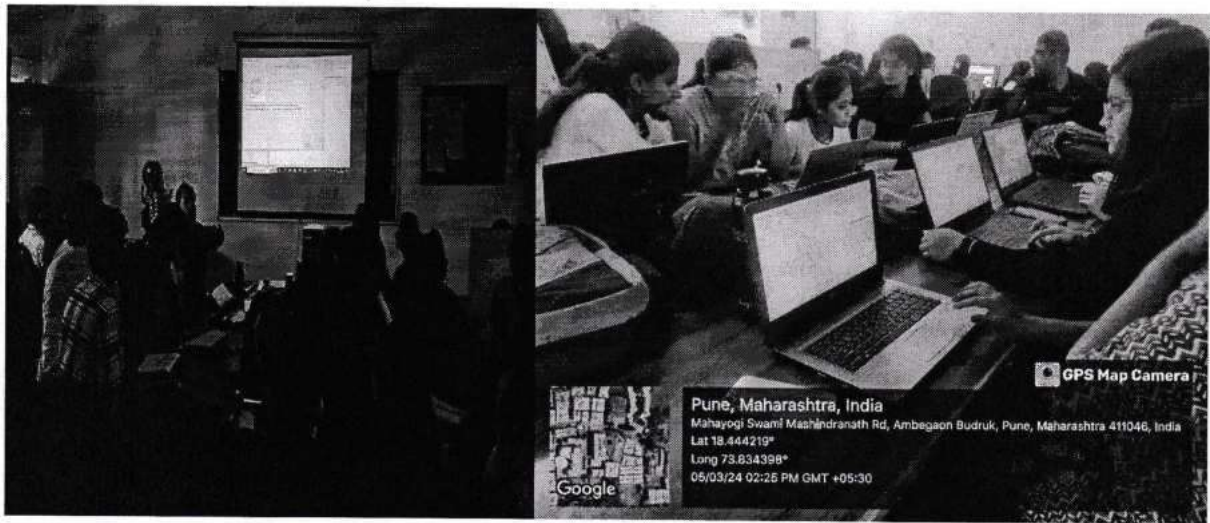
**Photo 1: Dr. P.N. Shinde Sir (HOD) addressing students about STP**

● **Day -1 Session (Tuesday, 05/03/2024)**

In first day of the STP, resource person Mr. Rohit Kulkarni started the session with introduction of Printed Circuit Board. He also give the brief overview of the importance of PCB, what are they, types of boards such as flexible boards, single layered & multi layered boards, applications & benefits of PCBs and their role in electronic devices. In the afternoon session, resource person Mr. Rohit Kulkarni introduced students about popular PCB design software tools such as Eagle, Altium Designer, KiCad, etc. explained them how to navigate the software interface and perform basic functions.



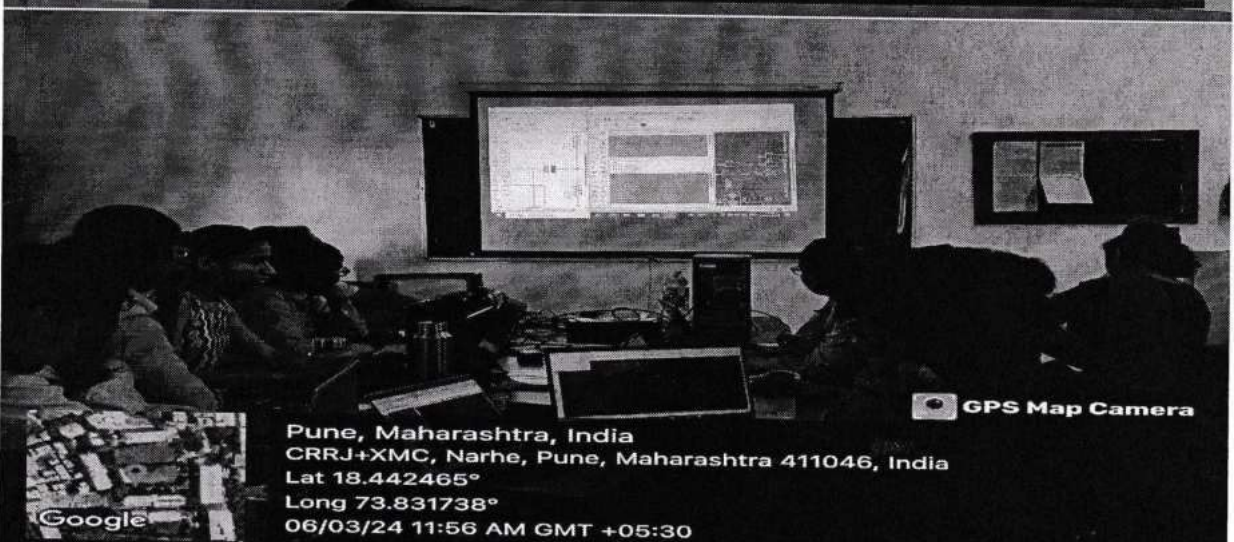
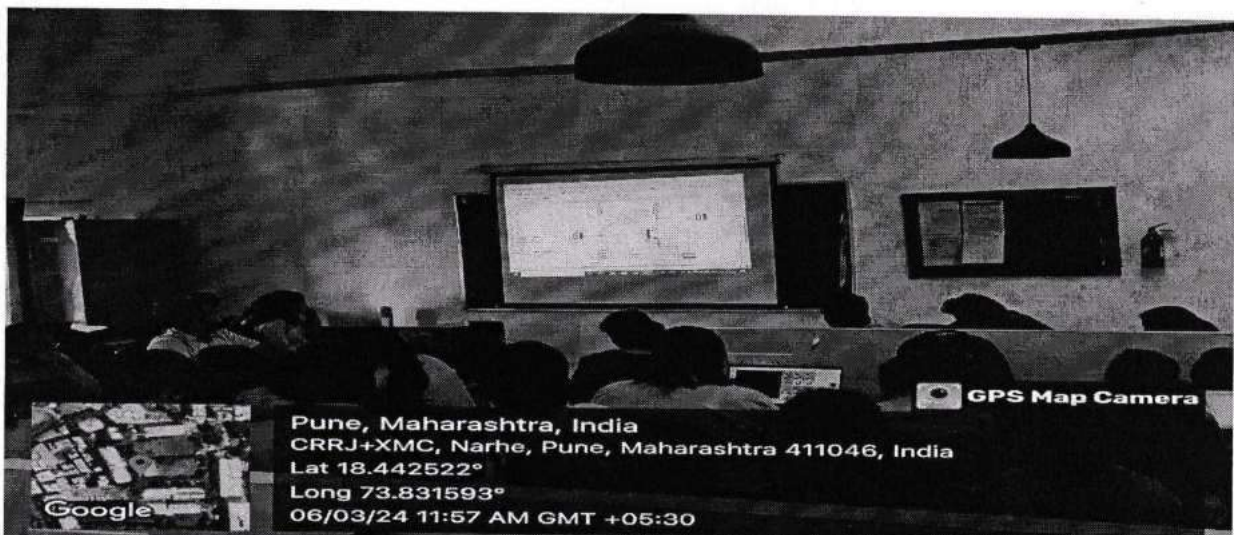




**Photo 3: Students delved into PCB designing software**

● **Day -2 Session ( Wednesday, 06/03/2024)**

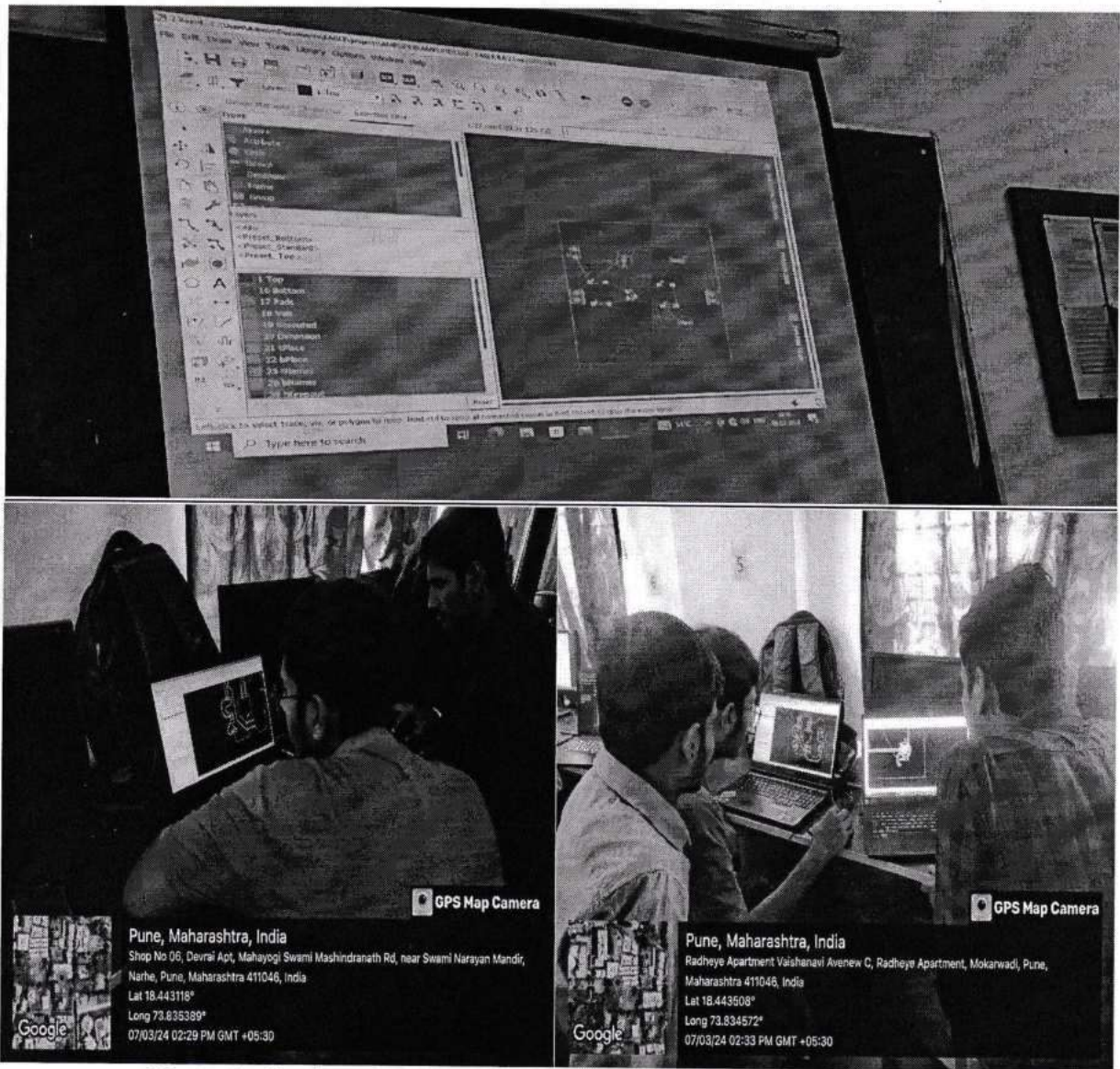
Mr. Rohit Kulkarni started second day session with to create schematic diagrams using the PCB design software. Emphasize best practices for organizing components, creating connections, and adding necessary annotations. He also guide students in selecting appropriate electronic components for their PCB designs and creating custom footprints if necessary. Discuss considerations such as component availability, cost, and technical specifications.





- **Day -03 Session (Thursday, 07/03/2024)**

In this session, Mr. Rohit Kulkarni explained how set the rules for PCB designs & perform PCB routing for single & double layer PCBs as well as how to translate schematic diagrams into physical PCB layouts. Cover topics such as placement of components, routing of traces, ground/power plane design, signal integrity considerations, and EMC (Electromagnetic Compatibility) compliance. Also he explained about generating the Gerber file as well as to create comprehensive documentation for their PCB designs, including schematics, bill of materials (BOM), assembly drawings, and Gerber files for manufacturing.



**Photo 5: Students making PCB Layout Design on Eagle software**

- **Day -04 Session (Saturday, 09/03/2024)**

In fourth day session, Mr. Ajay Nagpure explained the PCB manufacturing process & introduced different equipment's used in this process. Also he provided hands-on experience to students by allowing them to prototype their PCB designs. Various projects are assigned to students to encourage creativity and innovation in tackling real-world design challenges, allowing them to apply their newly acquired knowledge and skills to design a complete PCB from start to finish.



- **Feedback session**

After the successful completion of this student training program, we conducted design reviews where participants presented their PCB designs to the instructor and peers for feedback and critique. We have received overwhelming feedback from the participants. Everyone shared their view regarding the trainer presentation, the material presented, and the time allocated for this STP. From the feedback session, we came to know that whatever objectives mentioned for this STP are achieved and participants are satisfied with the service given by the department during the program.

- **What outcomes we achieved after completing this STP?**

By the end of the workshop, participants had achieved the following outcomes:

- Acquired a comprehensive understanding of PCB design principles and methodologies.
- Gained proficiency in using PCB design software tools for schematic capture, layout design, and routing.
- Developed practical skills in component selection, footprint creation, and PCB prototyping.
- Learned about design for manufacturability considerations and how to optimize designs for production.
- Successfully completed a final project showcasing their ability to design and prototype a functional PCB.

**Conclusion:**

The one-week hands-on training on PCB Design & Prototyping was a resounding success, providing participants with valuable knowledge and skills in an interactive and practical learning environment. The student training program not only equipped participants with the tools and techniques necessary for PCB design but also inspired creativity and innovation in electronic product development. Moving forward, it is essential to continue offering such STPs to empower aspiring engineers and professionals in the field of PCB design and manufacturing.



**Coordinator**

**Prof. P. A. Patil**



**Coordinator**

**Prof. V. C. Bavkar**

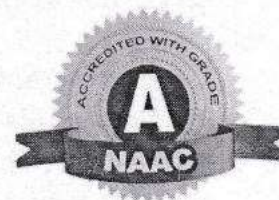


**HOD**

**Prof. J. P. N. Shinde**



**TSSM's**  
**Bhivarabai Sawant College of Engineering and**  
**Research, Narhe, Pune-41**



Report of Student Training Program on  
**“Industry Ready- Core and Advanced Java Programming”**

**Organized by**

Department of Electronics & Telecommunication Engineering

Department

In Association with

ICT CSR

**Convener**

Dr. P. N. Shinde  
HOD, E&TC Department

**Coordinator**

Prof. P. A. Patil  
Prof. V. C. Bavkar  
Assistant Professor, E&TC Department

**Resource Persons**

Mr. Mahajan M.  
Java Developer, FUEL Pune





## **Overview of the STP:**

**Introduction:** The JAVA Student Training Program is designed to equip students with essential skills and knowledge in Java programming, a widely used and versatile language in the software development industry. This program aims to provide a comprehensive learning experience tailored to the needs of students aspiring to build a career in software development or related fields.

**Program Objectives:** The “Industry Ready –Core & Advanced Java Programming” objective of the Core & Advanced Java Student Training Program is to equip students with a comprehensive understanding of Java programming language, starting from fundamental concepts and progressing to advanced topics. Through hands-on exercises, practical examples, and real-world projects, this program aims to empower students with the skills and knowledge necessary to develop robust Java applications, leverage industry-standard frameworks and libraries, and excel in software development roles. By the end of the program, students will have gained proficiency in core Java fundamentals, object-oriented programming principles, data structures, algorithms, multi-threading, networking, database connectivity, and advanced Java concepts such as Java EE, Spring Framework, Hibernate, and RESTful web services. Additionally, students will develop problem-solving abilities, critical thinking skills, and the ability to adapt to evolving technology trends, preparing them for successful careers in the software industry.

Following are the specific objectives of this Student Training Program-

- To introduce students to the fundamentals of Java programming language.
- To develop proficiency in Java syntax, data structures, and algorithms.
- To cultivate problem-solving skills through hands-on coding exercises and projects.
- To familiarize students with industry best practices and coding standards in Java development.
- To prepare students for entry-level positions or further education in software engineering or related disciplines.

## Schedule for STP: “Industry Ready- Core and Advanced Java Programming”

|                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| <b>Week 1 : 30<sup>th</sup> Jan - 2<sup>ed</sup> Feb 2024</b>                                                                                                                                                                                                                                                                                                                                                                               | <b>Session : 8.30am -10.30am</b> |
| <b>Topic:</b><br>1. Introduction to JAVA & explain importance of Java in real world.<br>2. Installing and Configuring Java. Simple Java Program, Java Program Structure, concepts of classes and objects to write programs in Java<br>3. Use of package for program implementation, Hands on practice using Eclipse IDE<br>4. Concept of Access modifiers in Java Such as Public, private , protected , Hands on practice using Eclipse IDE |                                  |
| <b>Week 2 : 5<sup>th</sup> Feb – 9<sup>th</sup> Feb 2024</b>                                                                                                                                                                                                                                                                                                                                                                                | <b>Session : 8.30am -10.30am</b> |
| <b>Topic:</b><br>1. Encapsulation, Getter and setter, Import class by java.util & scanner<br>2. Inheritance, Inheritance access specifier- public, protected<br>3. Constructor, Need of constructor, Types of constructor<br>4. Inheritance – Multilevel Inheritance Interface<br>5. Interface, Multiple Inheritance, database programming using JDBC                                                                                       |                                  |
| <b>Week 3 : 12<sup>th</sup> Feb – 16<sup>th</sup> Feb 2024</b>                                                                                                                                                                                                                                                                                                                                                                              | <b>Session : 8.30am -10.30am</b> |
| <b>Topic:</b><br>1. Polymorphism, Modifiers-default, public, private, Protected<br>2. Exception handling<br>3. Try-catch-finally and Try resources in java<br>4. Applet, life cycle, HTML Applet tag<br>5. Event Handling -ActionListener                                                                                                                                                                                                   |                                  |
| <b>Week 4 : 20<sup>th</sup> Feb – 23<sup>rd</sup> Feb 2024</b>                                                                                                                                                                                                                                                                                                                                                                              | <b>Session : 8.30am -10.30am</b> |
| <b>Topic:</b><br>1. Applet classes –Label, Checkbox, radio buttons etc getDocumentBase(), getCodeBase(), inner class<br>2. ActionListener interface, JDBC connectivity<br>3. Event handling-Key Event, KeyListener<br>4. AMCAT Exam conducted                                                                                                                                                                                               |                                  |
| <b>Week 5 : 26<sup>th</sup> Feb – 1<sup>st</sup> March 2024</b>                                                                                                                                                                                                                                                                                                                                                                             | <b>Session : 8.30am -10.30am</b> |
| <b>Topic:</b><br>1. Exception Handling by using try – Resource , use of throws & throw, run method for multithreading<br>2. Swing , JApplet, JLabel, JTextfield, JTextArea, JPanel,JButton,<br>3. Runnable Interface, Functional Interface, get.priority()                                                                                                                                                                                  |                                  |



**❖ Week 1 : 30th Jan – 2<sup>nd</sup> Feb 2024**

**Day -1 Session (Tuesday, 30//01/2024)**

In first day of the STP, resource person Mr. Mahajan started the session with introduction of Java programming language, what is Java? And why Java is widely adopted in the software development industry. Key points highlighted included Java's portability, robustness, security features, and vast ecosystem of libraries and frameworks. He also introduced different software required to execute Java programs. By covering these points, Mr. Mahajan guided to students through the step-by-step process of downloading and installation of essential software components, including JDK 8, Eclipse IDE, and MySQL database, ensuring a conducive learning environment.

**Day -2 Session (Wednesday, 31//01/2024)**

On the second day of the Student Training Program, Mr. Mahajan initiated the session by elucidating the fundamental concepts of Classes and Objects in Java programming. Subsequently, a practical session was conducted utilizing the Eclipse Integrated Development Environment (IDE). During this session, students actively engaged in exploring the basics of Java programming, particularly emphasizing the creation and execution of classes within the Eclipse IDE environment.

**Day -3 Session (Thursday, 01/02/2024)**

During the session, the topic of Packages in Java was covered, which serves as a mechanism to encapsulate a collection of classes, sub-packages, and interfaces. Additionally, the concept of Static Import, introduced in Java was discussed. This feature enables the usage of public static members (fields and methods) from a class without explicitly specifying the defining class. Students actively engaged in hands-on practice with various assignments to reinforce their understanding of these concepts.

**Day -4 Session (Friday, 02/02/2024)**

The session focused on fundamental class concepts, covering variables, access modifiers (specifically private), and distinctions between static and non-static members. In-depth discussions on implicit and explicit constructors provided participants with a deeper comprehension of object instantiation and initialization in Java. Hands-on coding exercises will be conducted to solidify understanding and practical application of these Java concepts.



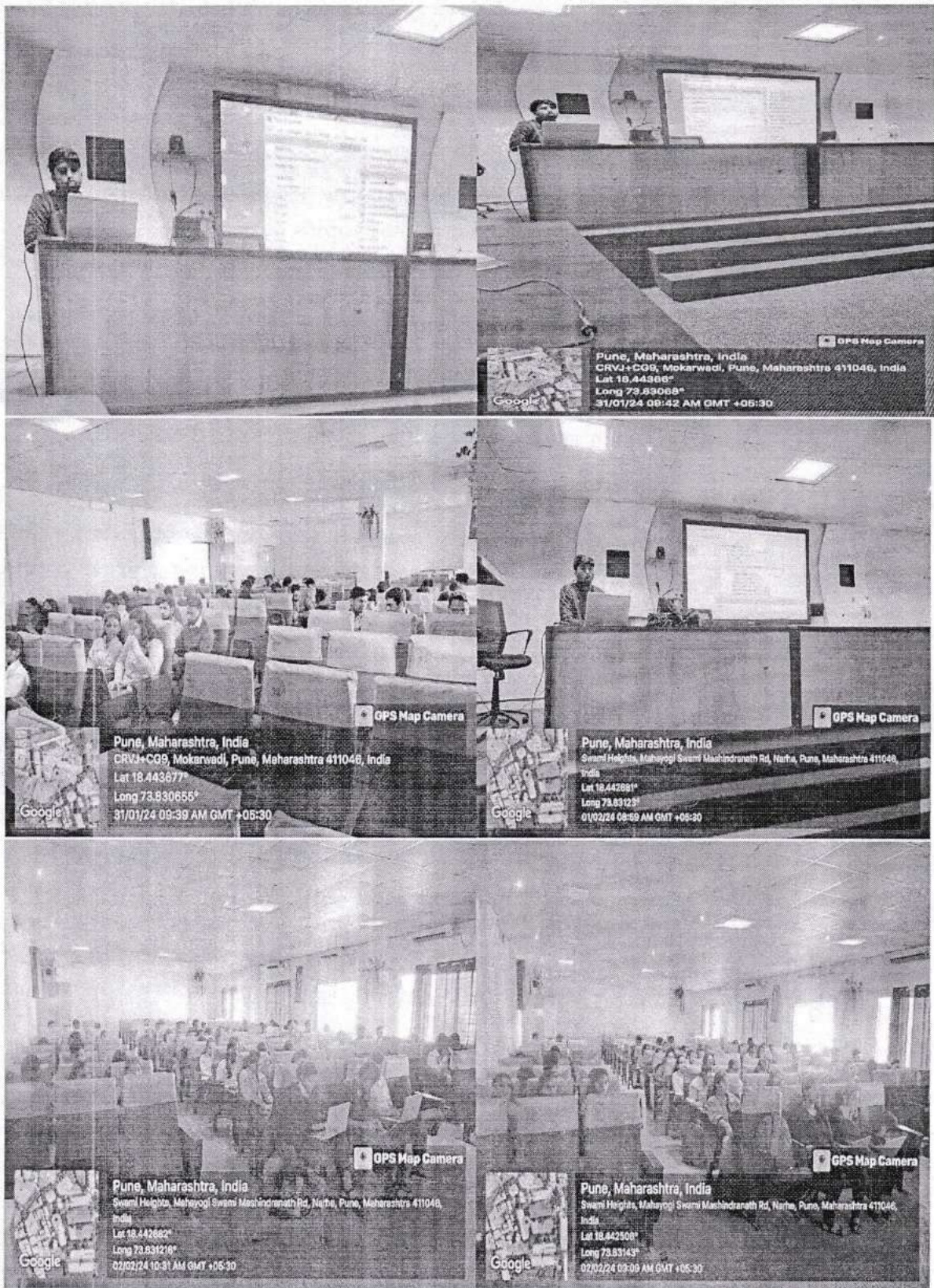


Photo 1: Glimpse of first week-1



❖ Week 2 : 5th Feb – 9<sup>th</sup> Feb 2024

**Day-5 Session (Monday, 05/02/2024)**

On first day of second week of the student training program, several crucial Java programming concepts were covered by resource person Mr. Mahajan to enhance student's understanding and proficiency. The topics covered – Encapsulation, Getter and Setter & Importing Classes from java.util & Scanner

**Day-6 Session (Tuesday, 06/02/2024)**

Session started with another pillar of Java that is Inheritance. Mr. Mahajan explained the concept with various programming examples which was very helpful to understand types of inheritance such as single inheritance, multilevel inheritance.

**Day-7 Session (Wednesday, 07/02/2024)**

Resource person Mr. Mahajan started session with topic- Importance and role of constructors in Java. Different types of constructors including default, parameterized, and constructor overloading also done in today's session.

**Day-8 Session (Thursday, 08/02/2024)**

Today's session started by introducing the concept of inheritance in object-oriented programming. Resource person Mr. Mahajan explain how inheritance allows a class to inherit properties and behaviour from another class. Also discuss multilevel inheritance & illustrate the concepts with code examples in a java. Mr. Mahajan discussed various topics such as- Introduction to Interfaces: Transition to interfaces and their role in programming. Define what interfaces are and how they differ from classes. Explain the importance of interfaces in achieving multiple inheritance-like behaviour in languages that do not support it directly. Also provide examples of interfaces and how they are implemented in various programming languages.

**Day-9 Session (Friday, 09/02/2024)**

In today's session, Mr. Mahajan introduce JDBC (Java Database Connectivity) and its significance in connecting Java applications to databases. Also cover the basic architecture and components of JDBC. Mr. Mahajan explain the steps involved in database programming using JDBC, such as connecting to a database, executing queries, and handling results. He demonstrate CRUD (Create, Read, Update, Delete) operations using JDBC. Resource person Mr. Mahajan discuss best practices and common pitfalls in JDBC programming.



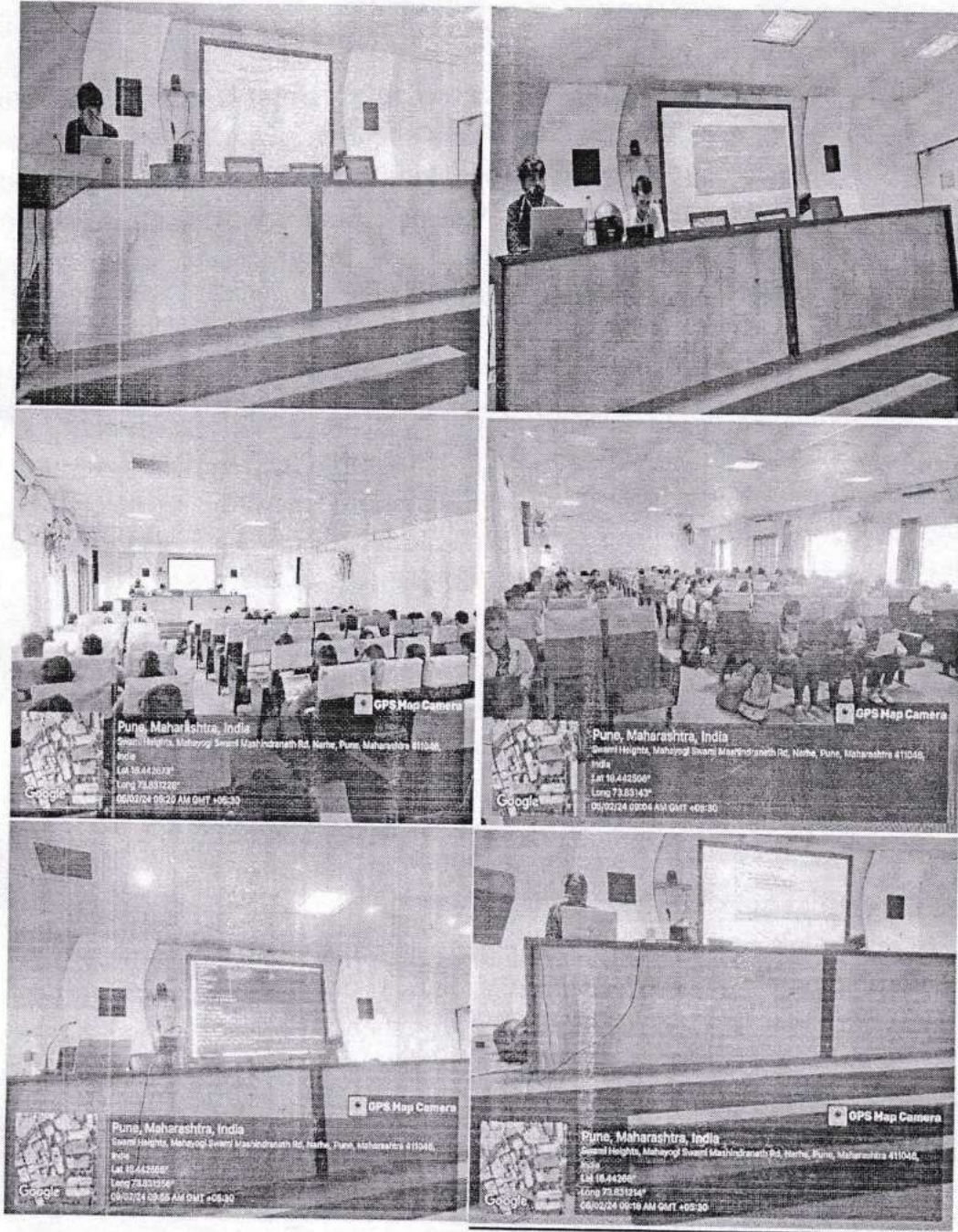


Photo 2: Glimpse of week-2



❖ Week 3 : 12<sup>th</sup> Feb – 16<sup>th</sup> Feb 2024

**Day 10: Session (Monday, 12/02/2024):**

In the today's session, reviewed the concept of polymorphism in Java, understanding how it allows objects of different classes to be treated as objects of a common superclass. Implemented polymorphic behaviour through method overriding and method overloading examples. Also Mr. Mahajan introduced default, public, private, and protected access modifiers in Java. Practiced applying these modifiers to class members to control their visibility and accessibility.

**Day 11: Session (Tuesday, 13/02/2024)**

Today's session is all about Exception Handling in Java programming. Resource person Mr. Mahajan explains how to handle different exceptions in programming by using try-catch-finally and try resource. Exception Handling: Explored exception handling mechanisms in Java using try-catch blocks. Learned about the importance of handling exceptions gracefully to improve the robustness of the code. Examined the use of the finally block for clean-up operations.

**Day 12: Session (Wednesday, 14/02/2024)**

Today's session started with a new concept – GUI based applications- Advanced Java, which consist details about Applet package, life cycle of Applet, AWT packages & HTML applet tags.

**Day 13: Session (Thursday, 15/02/2024)**

Today's session continued with hands on practice on Applets programming. As this is deprecated from new version of java, Mr. Mahajan solved related queries from student. Applet programs executed by two ways- by HTML & by using Appletviewer tool. All the students done hands on practice & discussed strategies for preserving applet state across page reloads or navigation.

**Day 14: Session (Friday, 16/02/2024)**

Resource person Mr. Mahajan started a session with a topic Event handling in AWT. He explained different events such as Key Event, Mouse Event. Students implemented event listeners to handle user interactions such as button clicks in graphical user interfaces.



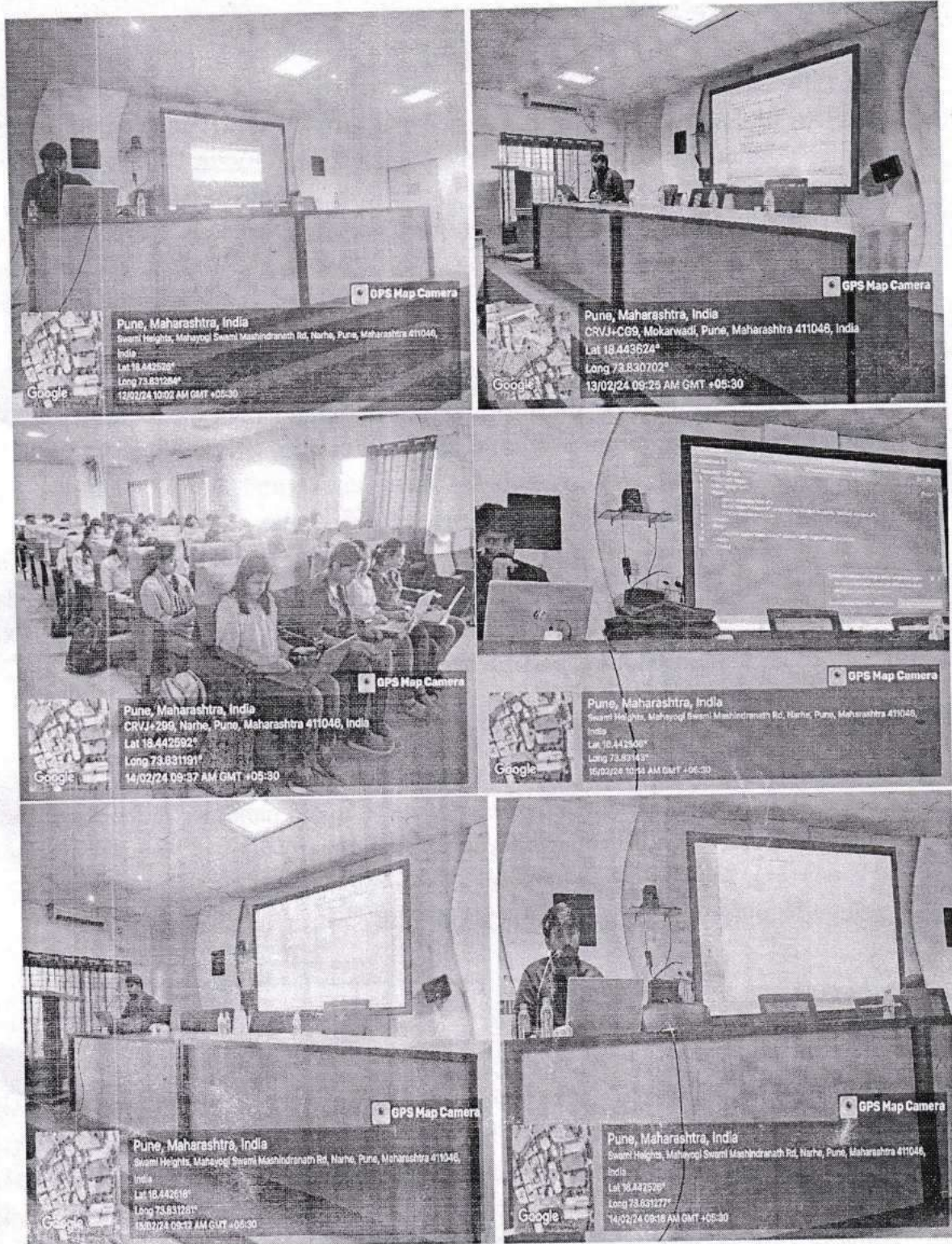


Photo 3: Glimpse of week-3



#### ❖ Week 4 : 20<sup>th</sup> Feb – 23<sup>rd</sup> Feb 2024

##### **Day 15: Session (Monday, 20/02/2024)**

Basically three different packages are there for GUI- java.applet, java.awt, javax.swing. So today's session started with topic Applet includes- Life cycle of Applet, Applet classes such as Label, Checkbox, and Radio Buttons, text field, text area etc. Mr. Mahajan exploring the lifecycle of Applets methods like init(), start(), stop(), and destroy(). The session delved into Inner classes were introduced as a mechanism for organizing code within a class, with a focus on their practical application in applet development.

##### **Day 16: Session (Tuesday, 21/02/2024)**

The third day focused on event-driven programming in Java, with an emphasis on event handling using the ActionListener interface. Participants learned how to respond to user interactions such as button clicks and menu selections. Practical examples and hands-on exercises helped solidify understanding.

Students were introduced to Java Database Connectivity (JDBC) for interacting with databases from Java applications. They learned how to establish database connections, execute SQL queries, and process query results. Practical exercises included creating, updating, and querying databases using JDBC.

##### **Day 17: Session (Wednesday, 22/02/2024)**

The final day of the session explored advanced event handling techniques, focusing on KeyEvent and KeyListener interfaces. Participants learned how to capture keyboard input and respond dynamically to key presses. Practical examples included building text-based applications and games that respond to user keystrokes.

##### **Day 18: Session (Thursday, 23/02/2024)**

In today's session AMCAT examination conducted by FUEL. AMCAT (Aspiring Minds Computer Adaptive Test) is an AI-based computer adaptive test which evaluates job applicants on critical areas like communication skills, logical reasoning, quantitative skills, and job-specific domain skills thus helping recruiters identify the suitability of a candidate for different job roles.





Photos: Glimpse of Week -4



❖ Week 5 : 26<sup>th</sup> Feb – 1<sup>st</sup> March 2024

• Day 19: Session (Monday, 26/02/2024)

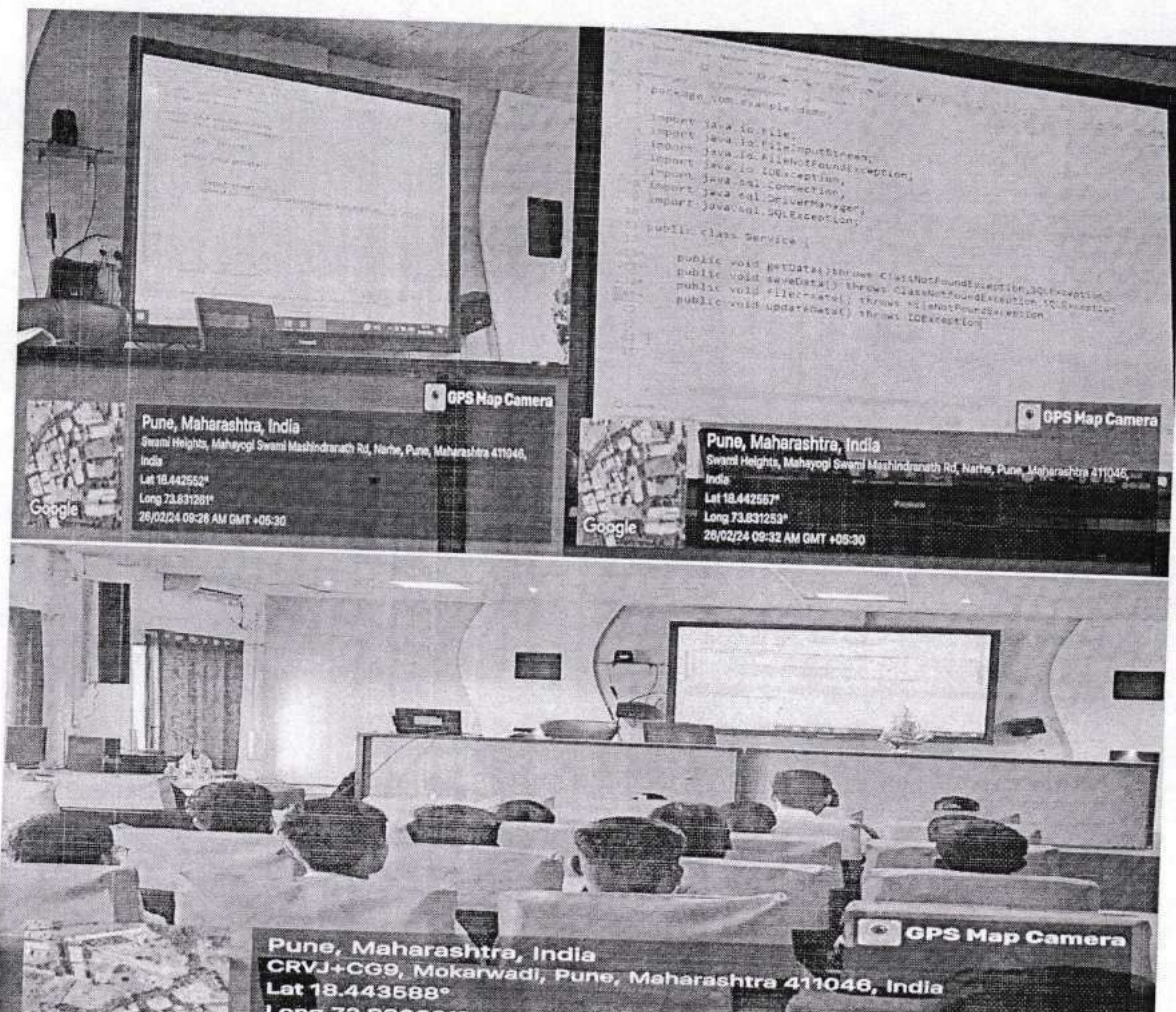
On first day of fifth week of the student training program, several crucial Java programming concepts were covered by resource person Mr. Mahajan to enhance student's understanding and proficiency. The topics covered – Exception Handling with Try-with-Resource, Multithreading-use of throws & throw, run method etc.

• Day 20: Session (Thursday, 29/02/2024)

Sun & Netscape combine and introduced common product to design GUI applications is called JFC (Java foundation classes) then it is renamed as swings. So, in today's session, resource person Mr. Mahajan explore how to design GUI applications with Swing, Swing Packages & classes such as JButton, JTextfield, JTextArea, JPanel, JLabel etc.

• Day 21: Session (Friday, 01/03/2024)

In today's session, Resource person Mr. Mahajan introduced Runnable Interface, Functional Interface, get.priority().





- **What outcomes we achieved after completing this STP?**

After comparing the objectives of the STP with feedback received from the participants, we have achieved below outcomes from this Student Training Program.

- **Understanding Core Java Concepts:** Students will have a thorough understanding of core Java concepts, including object-oriented programming (OOP) principles, data types, control structures, exception handling, and Java libraries.
- **Advanced Java Topics:** Students will be familiar with advanced topics such as Java Collections Framework, Java Input/Output (I/O), multithreading, and network programming.
- **Java Development Tools:** Students will be proficient in using Java development tools and environments, such as Eclipse, IntelliJ IDEA, and NetBeans.
- **Programming Skills:** Students will develop strong programming skills, enabling them to write clean, efficient, and maintainable Java code.
- **Problem-Solving Skills:** Through various coding exercises and projects, students will enhance their problem-solving and logical thinking abilities.
- **Debugging and Testing:** Students will gain experience in debugging Java applications and using testing frameworks like JUnit to ensure code quality.
- **Hands-On Projects:** Students will have completed several hands-on projects that demonstrate their ability to apply Java knowledge to real-world scenarios. These projects could range from simple console applications to complex GUI applications or web services.
- **Version Control:** Students will learn to use version control systems like Git, which is essential for collaborative software development.
- **APIs and Libraries:** Students will become adept at using various Java APIs and third-party libraries, enhancing their ability to integrate different functionalities into their projects.
- **Teamwork:** Students will have experience working in teams, which is crucial for software development projects in professional environments.
- **Communication Skills:** The program may include opportunities for students to present their projects and explain their code, thereby improving their technical communication skills.
- **Best Practices:** Students will be introduced to industry best practices in software development, including design patterns, code reviews, and documentation.
- **Current Trends:** The program may cover current trends and advancements in Java and the broader software development field, keeping students up-to-date with the latest technologies.
- **Confidence:** Successfully completing the program will boost students' confidence in their ability to tackle programming challenges and continue learning new technologies.
- **Time Management:** Balancing coursework, projects, and possibly other commitments will help students develop strong time management skills.

  
Coordinator  
Prof. P. A. Patil

  
Coordinator  
Prof. V. C. Bavkar

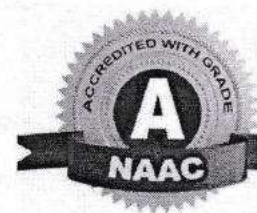
  
HOD  
Prof. J. P. N. Shinde

Head  
Department of Electronics &





**TSSM's**  
**Bhivarabai Sawant College of Engineering and**  
**Research, Narhe, Pune-41**



**Report of One Week Student Training Program on**  
**“Advanced Network of Things\_Cloud /SASE Security”**

**Organized by**  
**Department of Electronics & Telecommunication Engineering**  
**Department**  
**Funded By ICT CSR**

**Convener**

**Dr. P. N. Shinde**  
HOD, E&TC Department

**Coordinator**

**Prof. P. P. Gaikwad**  
**Prof. N. R. Janvekar**  
Assistant Professor, E&TC Department

**Resource Persons**

**Mr. Yogesh More**  
HCL Technology Ltd.



- **Overview of the Network Security:**

In today's hyper-connected world, network security presents a greater challenge as more business applications move to private and public clouds. Moreover, the applications themselves now tend to be virtualized and distributed across many locations, some of which are outside the physical control of IT security teams. With the number of attacks on companies climbing ever higher, protecting network traffic and infrastructure is critical.

- **Objectives:**

The following are the specific objective of this Student Training Program.

- To learn OSI model and its layers.
- To demonstrate knowledge of cryptography techniques.
- To analyse attacks on computers and computer security.
- To study how blockchain is used in digital currencies like Bitcoin and Ethereum.
- To understand how SASE integrates multiple security functions, such as FWaaS (Firewall as a Service), SWG (Secure Web Gateway), CASB (Cloud Access Security Broker), and Zero Trust Network Access (ZTNA).
- To protect against threats such as malware, viruses, and other forms of malicious attacks.
- To protect against unauthorized access and control of network devices and systems.

**Scheduled for One Week STP on "Advanced Network of Things\_Cloud /SASE Security"**

| Date       | Day    | Session   | Resource Person | Time             | Topic                                                                                                                                                                                                        |
|------------|--------|-----------|-----------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 04/03/2024 | Monday | Morning   | Mr. Yogesh More | 10.00 am-1.00 pm | Introduction to Network security & overview of the importance of networking and security.<br>Explanation of the OSI model and its layers.<br>Introduction to network devices (routers, switches, firewalls). |
|            |        | Afternoon |                 | 2.00 pm-5.00 pm  | Introduction to network security concepts (firewalls, VPNs, IDS/IPS).<br>Implementing strong passwords and multi-factor authentication.                                                                      |



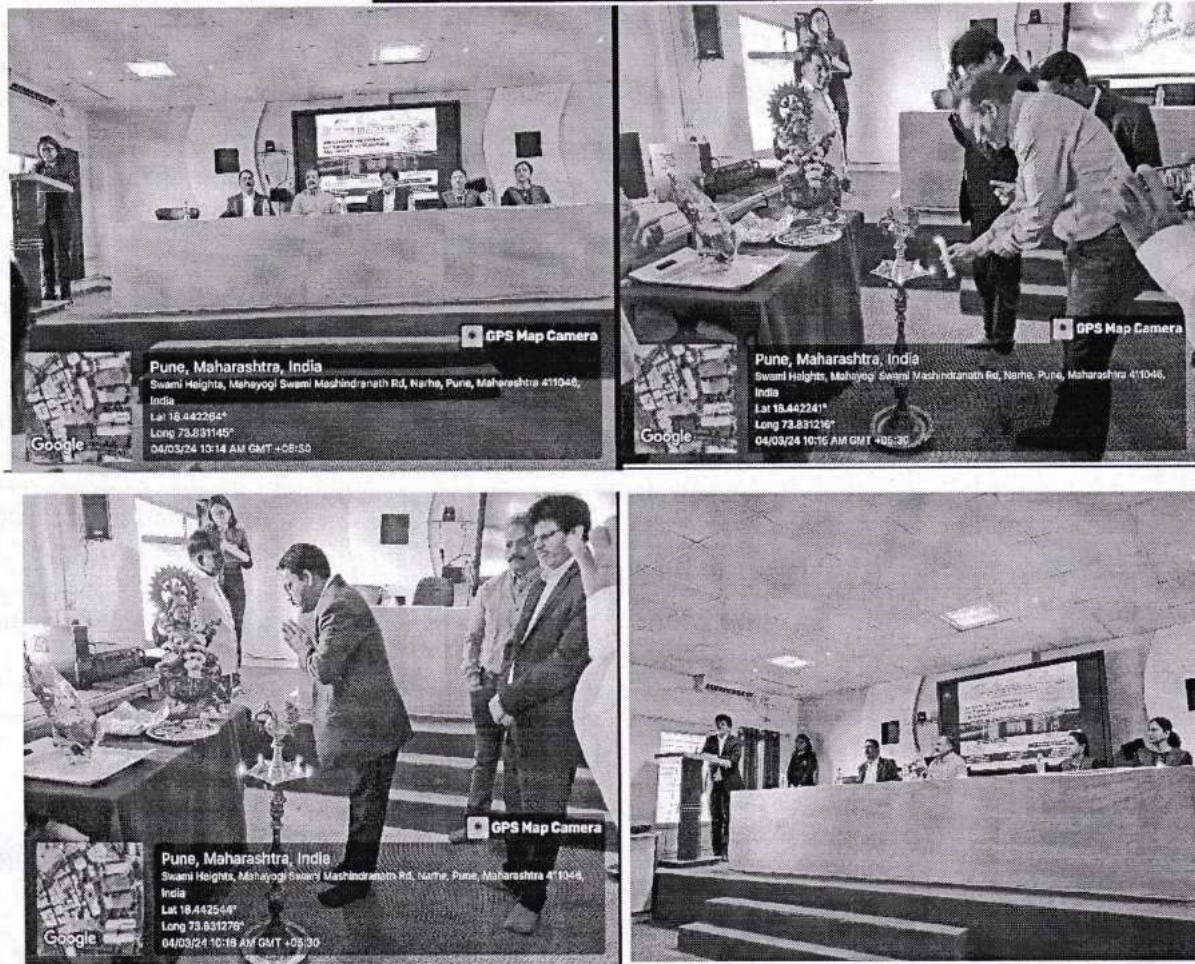
|            |           |           |                |                  |                                                                                                                                                                                                    |
|------------|-----------|-----------|----------------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 05/03/2024 | Tuesday   | Morning   | Mr.Yogesh More | 10.00 am-1.00 pm | Introduction to Blockchain<br>Brief history and evolution of blockchain.<br>Cryptography techniques used in blockchain for security and privacy.<br>Components, Types & Applications of blockchain |
|            |           | Afternoon |                | 2.00 pm-5.00 pm  | Challenges and Limitations<br>Scalability, Interoperability<br>Exploration of how blockchain can complement other technologies like IoT, AI, and big data.                                         |
| 06/03/2024 | Wednesday | Morning   | Mr.Yogesh More | 10.00 am-1.00 pm | Introduction to 5G technology<br>Massive MIMO                                                                                                                                                      |
|            |           | Afternoon |                | 2.00 pm-5.00 pm  | Global Deployment and Adoption of 5G technology                                                                                                                                                    |
| 07/03/2024 | Thursday  | Morning   | Mr.Yogesh More | 10.00 am-1.00 pm | Introduction to SASE-II technology<br>Cloud-Native Architecture                                                                                                                                    |
|            |           | Afternoon |                | 2.00 pm-5.00 pm  | Key Principles of SASE<br>Use Cases of SASE                                                                                                                                                        |
| 09/03/2024 | Friday    | Morning   | Mr.Yogesh More | 10.00 am-1.00 pm | Considerations for selecting a SASE solution, including scalability, interoperability, and vendor reputation.                                                                                      |
|            |           | Afternoon |                | 2.00 pm-5.00 pm  | Emphasize the transformative potential of SASE technology in enabling secure, scalable, and agile network access.                                                                                  |

● **Inaugural Ceremony:**

The Inaugural ceremony of this workshop was started by welcome speech given by student Vipul Mhajan. As our Indian tradition, every activity start with worshipping goddess Saraswati, who is considered the embodiment of knowledge, music, arts, and wisdom. After lamp lightning ceremony **Dr. G.A. Hinge, Principal and Patron of this STP**, felicitated the Chief Guest **Mr.Yogesh More, HCL Technology Ltd..** Inaugural ceremony ends with vote of thanks given by **Dr. P.N.Shinde, HoD of E&TC Department.**



### Glimpses of Inauguration Ceremony



- Day -1 Session (Monday, 04/03/2024)

In first day of the STP, resource person Mr.Yogesh More started the session with introduction of Networking and Security. He also give the brief overview of the importance of networking security, networking fundamentals, components ,types of networks& network devices. In the second half of this session explanation of the OSI model and its layers.



**Photo 1: Resource Person Mr.Yogesh More giving introduction about STP**



- **Day -2 Session (Tuesday, 05/03/2024)**

Mr.Yogesh More started second day session with the introduction to Blockchain and explain the working of blockchain. Blockchain technology gained prominence primarily as the underlying technology behind cryptocurrencies like Bitcoin. However, its applications extend far beyond digital currencies, including supply chain management, voting systems, healthcare records, identity verification, and more. Its ability to provide transparency, security, and decentralization has made it a promising solution in various industries.



**Photo 2: Resource Person Introducing working of Blockchain**

- **Day -03 Session ( Wednesday, 06/03/2024)**

Mr.Yogesh More started third day session with the introduction of 5G technology, 5G technology refers to the fifth generation of wireless communication technology for cellular networks. It represents a significant leap forward from previous generations (such as 4G/LTE) in terms of speed, capacity, latency, and connectivity. Here are some key features and aspects of 5G technology:

- Increase Speed
- Low latency
- High Capacity
- Enhanced Connectivity
- Edge Computing

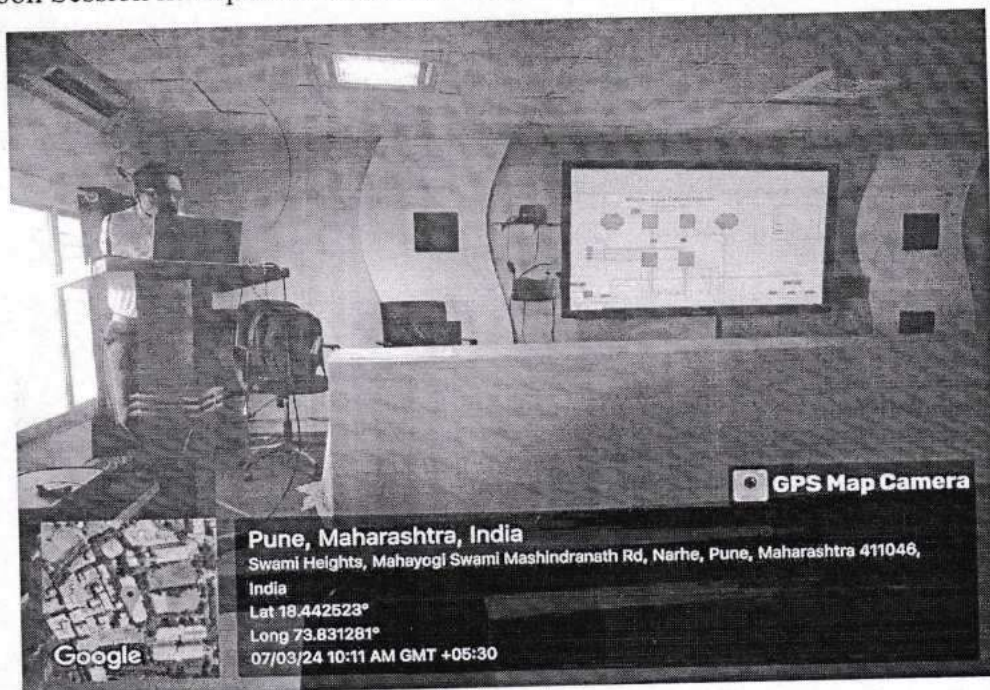




**Photo 3: Resource person explaining 5G technology**

- **Day -04 Session (Thursday, 07/03/2024)**

Fourth day session started with SASE II Security. He has explained that SASE (Secure Access Service Edge) is an emerging cybersecurity framework that combines network security functions with wide-area networking (WAN) capabilities to provide secure access to applications and data for users, regardless of their location or device. The concept of SASE was introduced by Gartner in 2019, reflecting the need for a more integrated and cloud-native approach to network security in the era of digital transformation and remote work. In Afternoon Session he explained different features of SASE Security





- **What outcomes we achieved after completing this STP?**

Below are the outcomes from this student training program.

1. Enhanced understanding of network security concepts: Participants will gain a depth understanding of fundamental concepts, principles, and best practices related to network security.
2. Improve technical skills: Training programs often include hands-on exercises and design of network architecture to improve participants' technical skills in configuring, managing, and securing network infrastructure and devices such as programming switches and firewall.
3. Awareness of emerging threats and trends: Participants will become familiar with the latest trends and threats in the cybersecurity landscape, including malware, phishing, ransomware, and insider threats.
4. Ability to access and mitigate risk.
5. Students are aware about career in network security via different certifications like CAN, CCIE, CCSE+, CCMSE, SCSA, RHCE, etc.

Overall, the outcomes of a network security training program are aimed at equipping participants with the knowledge, skills, and mindset necessary to protect organizational assets, mitigate risks, and respond effectively to cybersecurity threats and incidents.



**Coordinator**

**Prof. P. P. Gaikwad**



**Coordinator**

**Prof. N. R. Janavekar**



**HOD**

**Prof. P. N. Shinde**



- **Day -05 Session (Saturday, 09/03/2024)**

On Last day of this STP resource person has discuss on emerging trends and advancements in SASE technology, such as AI-driven security analytics, containerization, and integration with SD-WAN (Software-Defined Wide Area Networking) and emphasize the transformative potential of SASE technology in enabling secure, scalable, and agile network access.

- **Feedback session**

After successful completion of this student training program, we have received overwhelming feedback from the participants. Everyone shared their view regarding trainer presentation, material presented and time allocated for this STP. From the feedback session we came to know that whatever objectives mentioned for this STP are achieved and participants are satisfied with service given by the department during program.



**Photo 7: Participants of the program**





THE SHETKARI SHIKSHAN MANDAL

BHIVARABAI SAWANT COLLEGE OF ENGINEERING AND RESEARCH, PUNE

DEPARTMENT OF MECHANICAL ENGINEERING

Dr. T. J. Sawant  
President

G.T.Sawant  
Secretary

Dr. G. A. Hinge  
Principal

**A Report on**  
**“Additive Manufacturing”**

**Program Title: Additive Manufacturing**

**Duration:** 17/ 02/2021 to 21/02/2021 Time: 09:00 am to 05:00 pm

**Program Coordinator:** Prof . N.N.Pawar

**Program Objective:** The purpose of this workshop was to train the students on internet of things in Mechanical world through training session. The motive behind organizing workshop is also to aware student about real time application of internet of things and make them competent to develop minor projects based on practical applications.

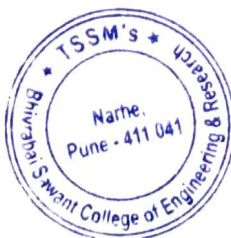
**Target Audience:** Workshop participants are from fourth Year Mechanical Engineering course TSSM, BSCOER, Narhe, Pune.

**Total No. of Participants:** 55

The workshop on “Additive Manufacturing” was inaugurated by Dr.M.V.Dalvi, HOD, Mechanical Engineering. Speaker Prof. P.T.Kharat very elegantly conducted the workshop. Prof.N.N.Pawar actively coordinated the workshop and successfully implemented the same. This workshop was visited by Ho’ble Rushiraj Sawant, Campus Director, Dr. G. A. Hinge, Principal BSCOER encouraged our participants.

**Conclusion:** The workshop on “Additive Manufacturing” was organized under department Mechanical Engineering dept was really helpful to clear concepts, doubts & glitches related to topic the participants by taking efforts on their own under the guidance of Prof. P.T.Kharat

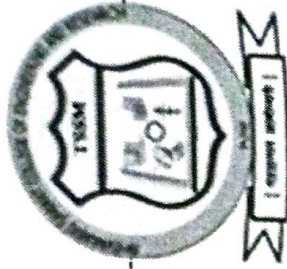
  
Prof. N.N.Pawar  
Co-ordinator



  
Dr.M.V.Dalvi  
H.O. D.



**TSSM's Bhivarabai Sawant College of Engineering and  
Research, Narhe, Pune-41  
Department of Mechanical Engineering**



This certificate is presented to

**Deshmukh Aditya**

on course on "Additive Manufacturing" from 19/09/2019 to  
23/09/2019

**Prof N.N. Pawar  
Coordinator**



**Dr M V Dalvi  
HOD, MECH**