149 - GOVERNMENT POLYTECHNIC COLLEGE VANAVASI – 636457

REPORT ON VISIT TO INDUSTRIAL TRAINING INSTITUTE (ITI) – INDUSTRY 4.0 TECHNOLOGY CENTRE

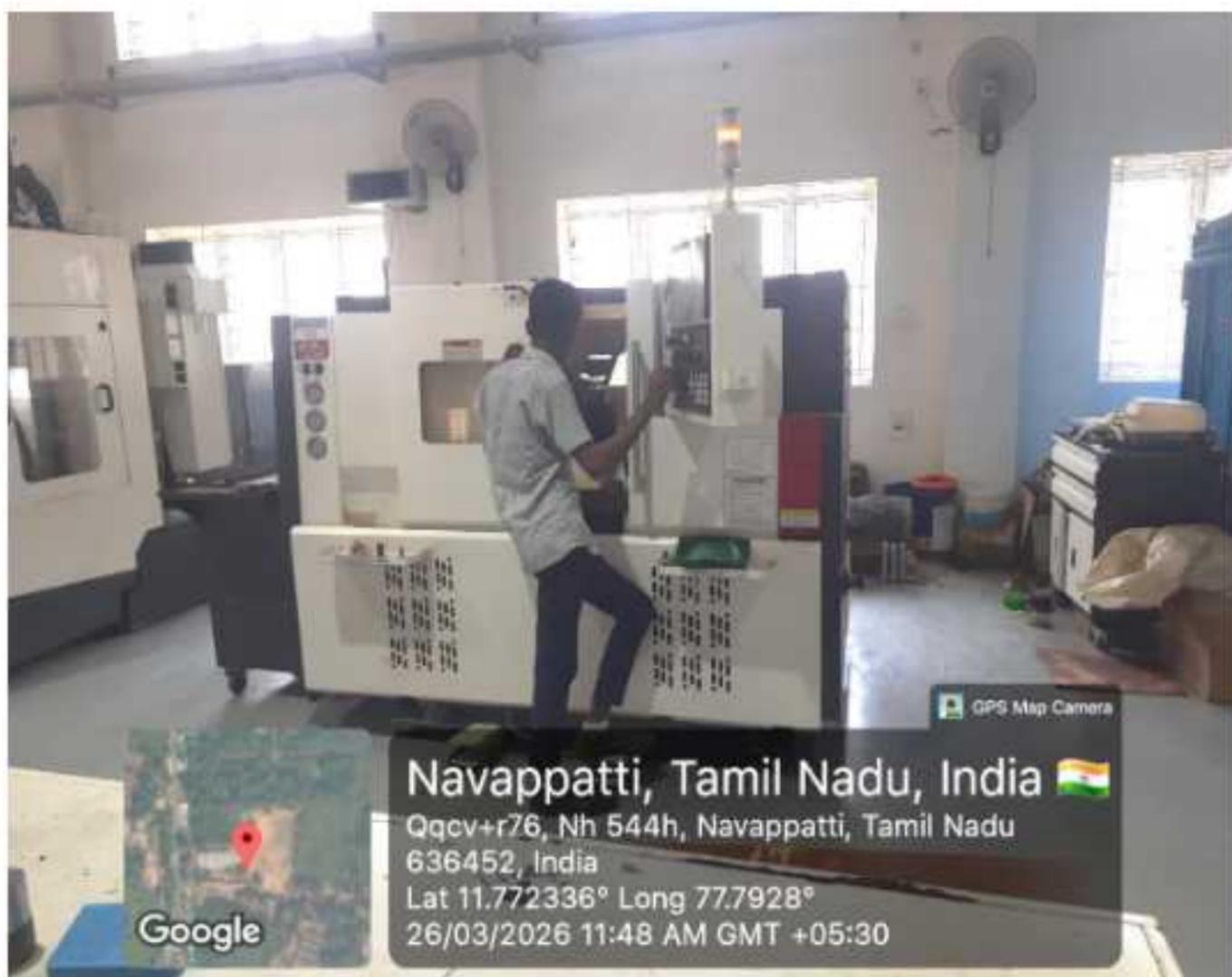
26TH MARCH 2026

149 - GOVERNMENT POLYTECHNIC COLLEGE
VANAVASI – 636457

REPORT ON VISIT TO INDUSTRIAL TRAINING INSTITUTE (ITI) – INDUSTRY 4.0 TECHNOLOGY CENTRE

Ref: Letter No. 16926/Y3/CDC/2023, Dated 24.03.2026

In accordance with the instructions issued by the Directorate of Technical Education vide reference cited, a visit was undertaken to the Industrial Training Institute (ITI) at Mettur, Salem, Tamil Nadu on 26.03.2026. The purpose of the visit was to study the functioning of Industry 4.0 Technology Centres established in ITIs and to observe the best practices, innovative approaches, and infrastructure facilities that can be adopted in Government Polytechnic Colleges for strengthening Centres of Excellence (CoEs).

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During the visit, the advanced manufacturing laboratories and workshop facilities were inspected in detail. It was observed that the institute is well equipped with modern machinery such as Laser Engraver Machine (SIL E4040SH), Vertical Machining Center (AMS 540V), and Horizon 2 Axes Turning Center (ACE JE 06 LML). In addition, facilities like Paint Spray Booth provided by Tech Expert Engineering Pvt. Ltd. were also available, enabling students to gain exposure to real-time industrial processes. The presence of such advanced equipment reflects a strong emphasis on practical skill development and hands-on training aligned with current industrial standards.

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Further, the institute has established advanced automation and robotics facilities. YASKAWA robotic arms are available for welding applications as well as pick-and-place operations, demonstrating modern industrial automation practices. The Industrial Automation Simulator using Schneider PLC and its associated components was also observed, which provides students with practical knowledge in programmable logic control systems and industrial automation techniques. The availability of 3D Printing facilities and CNC simulators further enhances the learning environment by enabling students to understand digital manufacturing concepts.
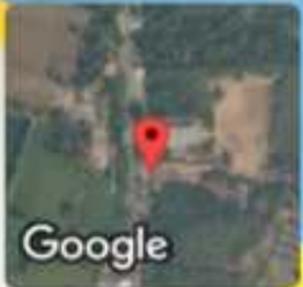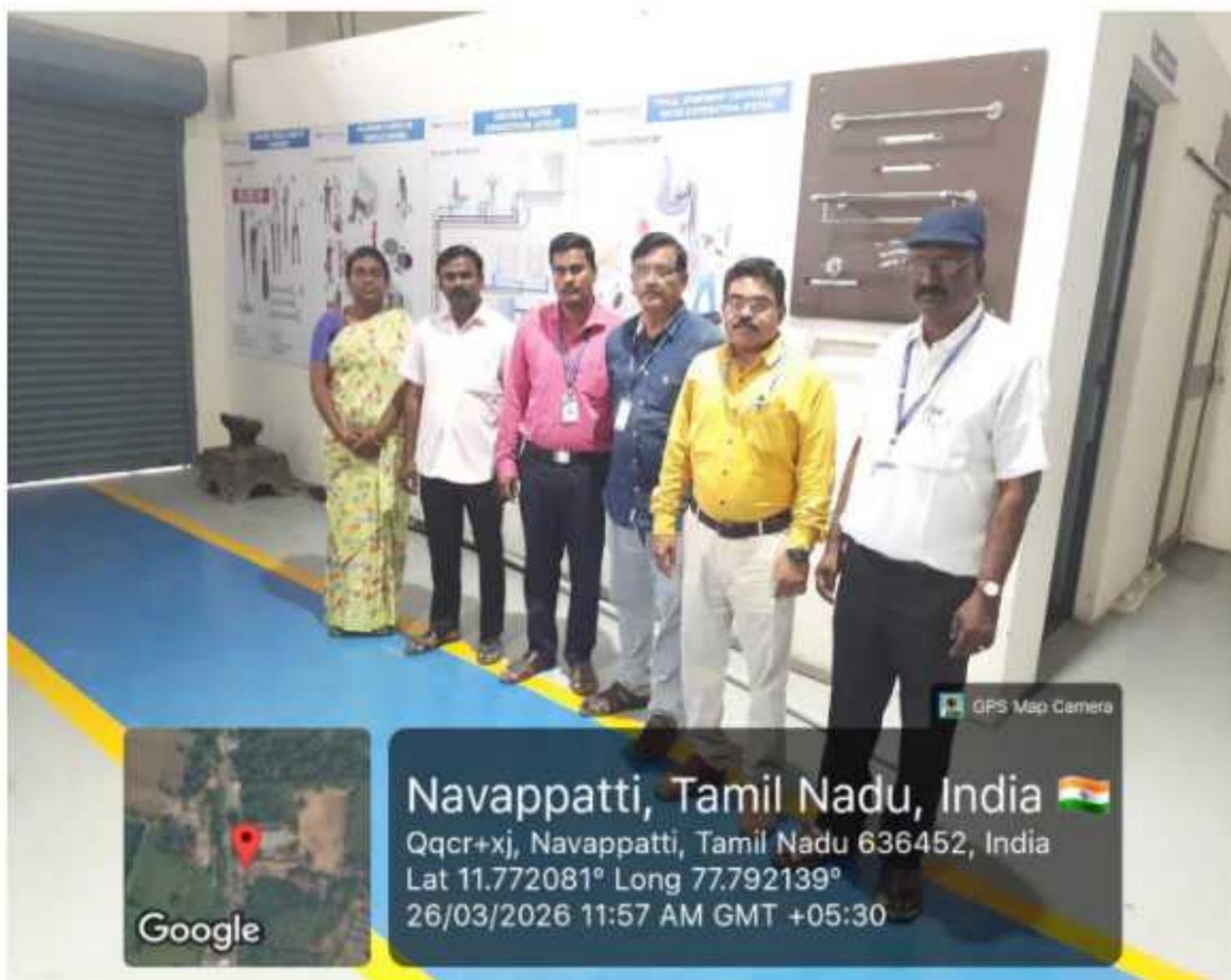

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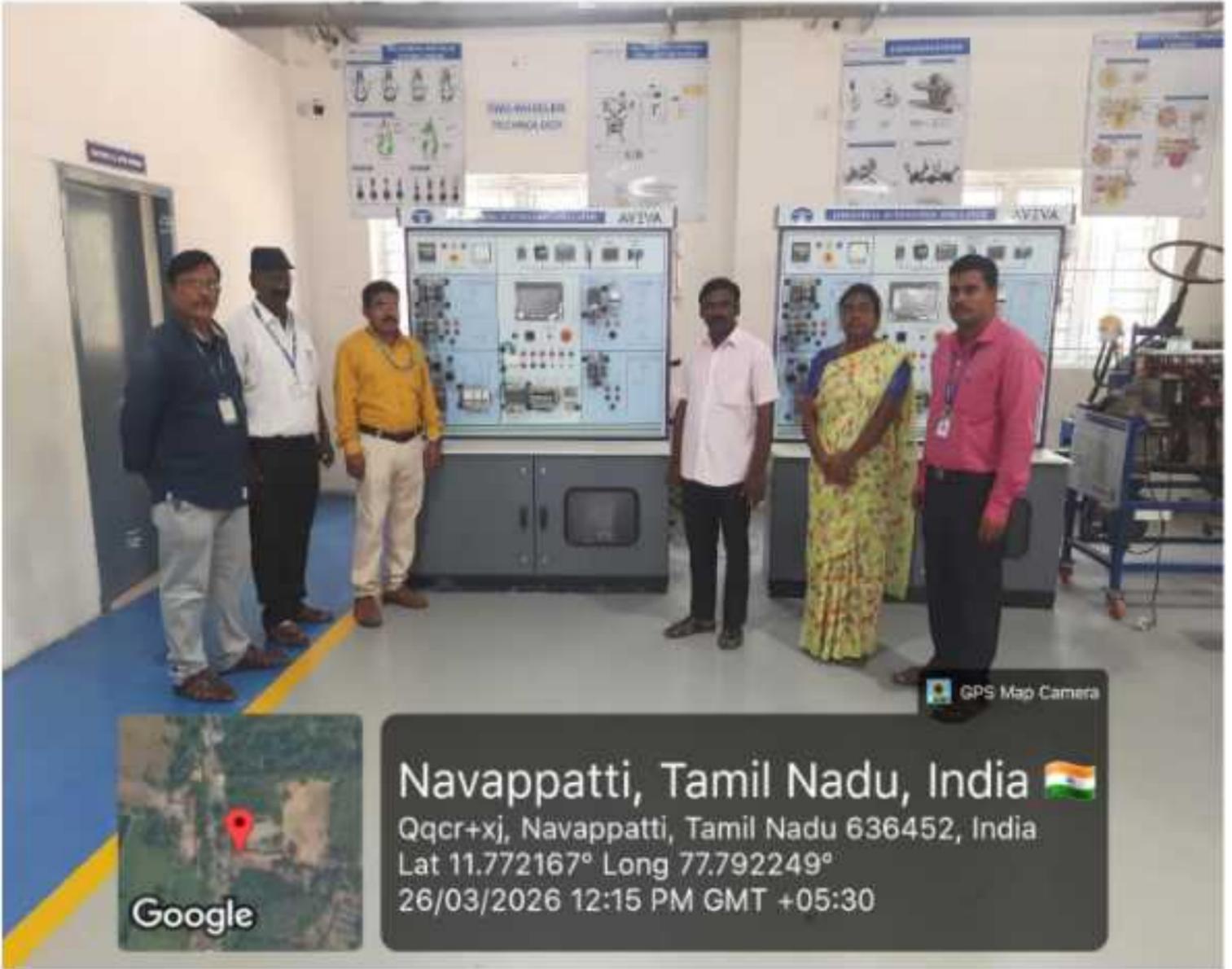

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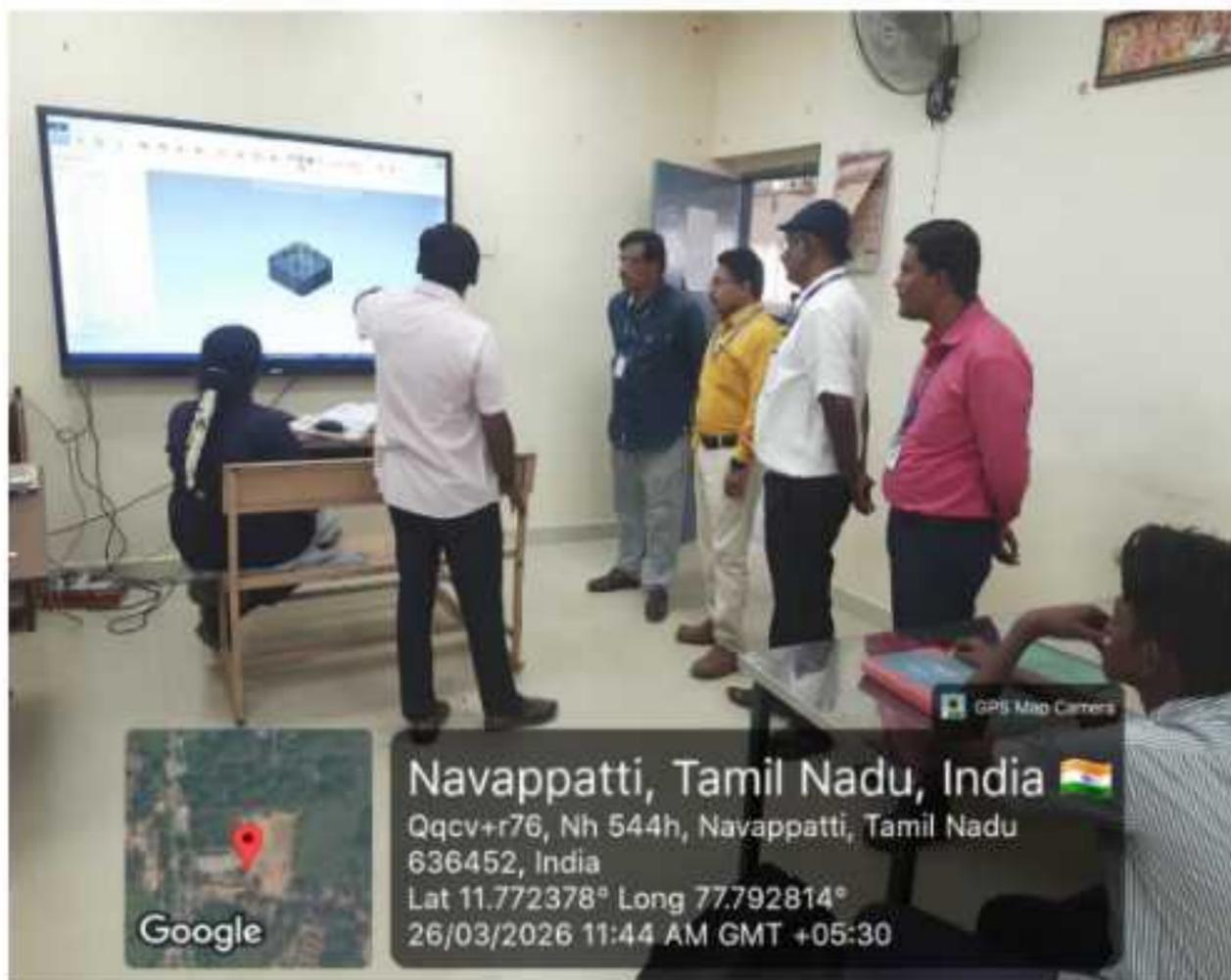26/03/2026 12:15 PM GMT +05:30

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The institute also provides well-developed digital and smart learning environments. The VAST classroom, IoT classroom equipped with Raspberry Pi interfaced with various sensors, PDD classroom, and PVA classroom were inspected. These facilities support modern teaching methodologies and enable students to learn emerging technologies such as Internet of Things (IoT), embedded systems, and digital design through practical exposure. The smart classrooms are effectively utilized for simulation-based teaching and interactive learning.

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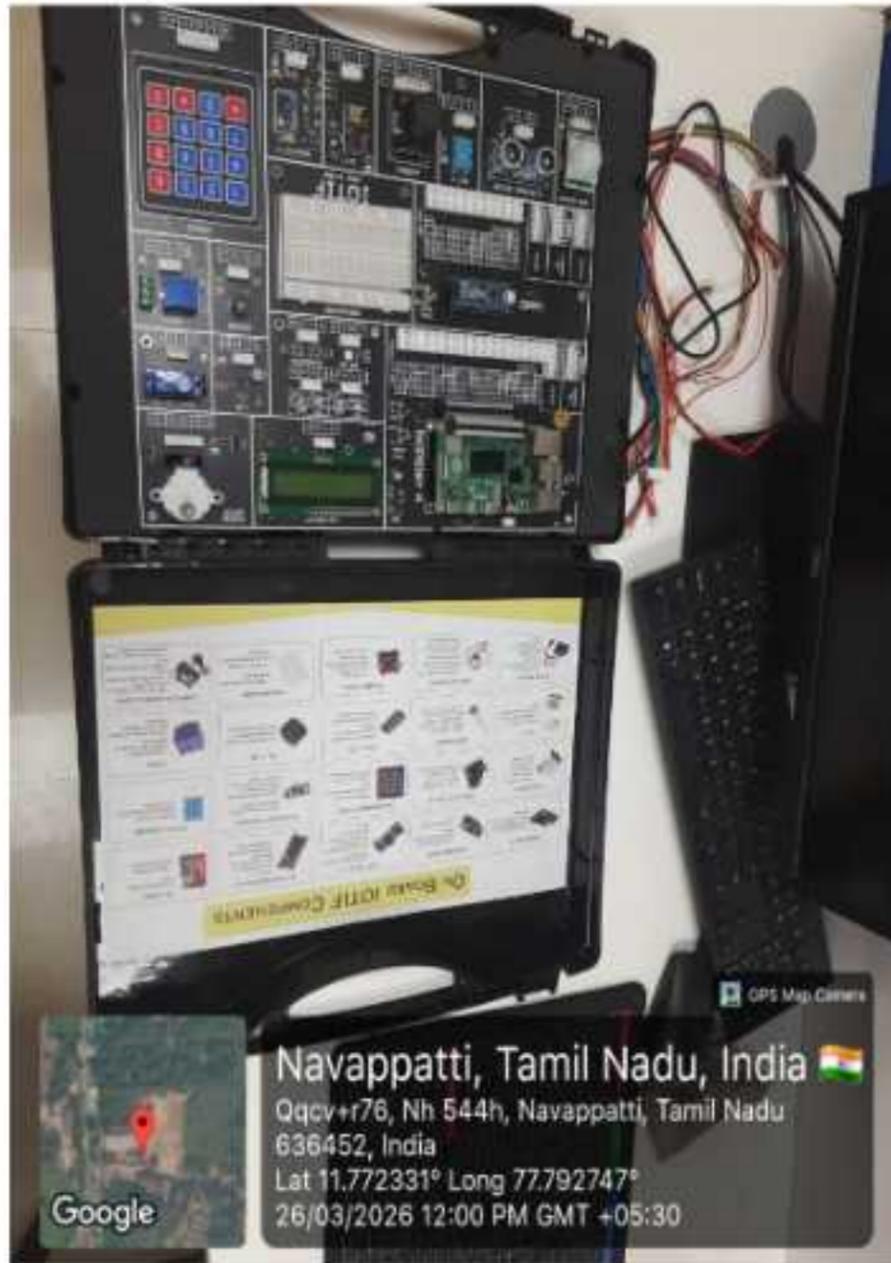Lat 11.77205° Long 77.792439°
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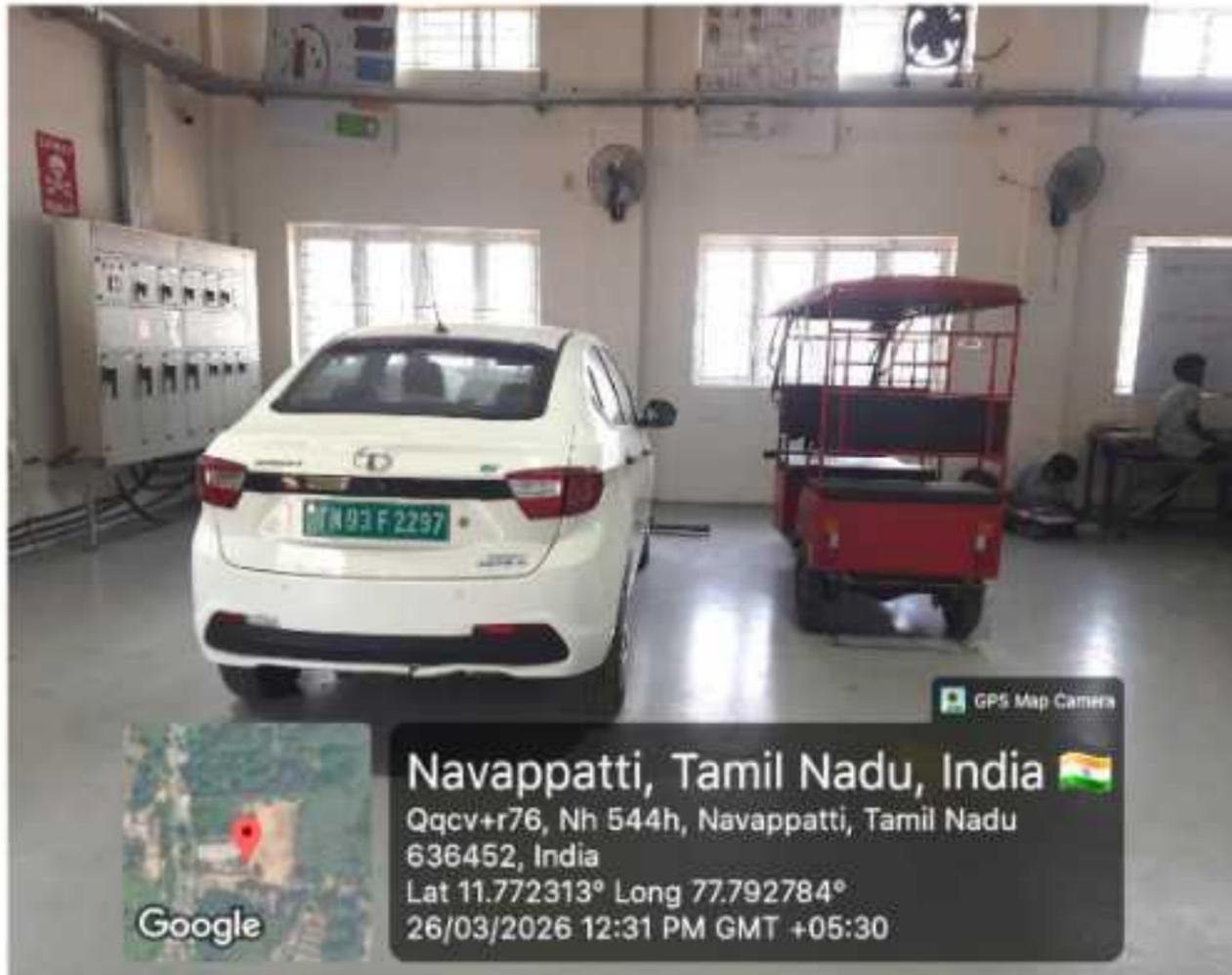26/03/2026 11:44 AM GMT +05:30

In addition, the automobile and emerging vehicle technology sections were also inspected. The institute has facilities related to Two-Wheeler Technology including Electric Vehicles (EVs), along with demonstration units of engine assemblies, vehicle transmission systems, chassis, and steering mechanisms. These facilities provide comprehensive knowledge of conventional and modern automotive systems, thereby improving the employability skills of students.

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Interaction was held with the faculty members and students to understand the training methodologies and curriculum delivery. It was observed that the faculty members are effectively utilizing the available infrastructure to deliver skill-oriented training programs. The students demonstrated practical knowledge in areas such as CNC machining, robotics, IoT applications, and automotive systems. The overall teaching-

learning process is found to be focused on industry requirements with adequate emphasis on hands-on training.

The visit provided valuable insights into the implementation of Industry 4.0 concepts in technical education. The best practices observed include effective utilization of advanced machinery, integration of automation and robotics, use of simulation tools, and adoption of digital learning methodologies. The institute also demonstrates strong alignment with industry requirements through its modern infrastructure and training approach.

Based on the observations made during the visit, it is inferred that similar facilities such as CNC and robotics laboratories, IoT labs, industrial automation setups, and smart classrooms may be established in Government Polytechnic Colleges. Further, strengthening of Industry-Institution Interaction Cells (IIIC), capacity building of faculty in emerging technologies, and adoption of project-based and skill-oriented learning approaches are essential for enhancing the quality of technical education in line with Industry 4.0 standards.

In conclusion, the visit to the ITI at Mettur, Salem, Tamilnadu has been highly informative and beneficial. The infrastructure, advanced equipment, and innovative teaching practices observed during the visit provide a strong reference model for the development of Industry 4.0 Centres of Excellence in Polytechnic Colleges.