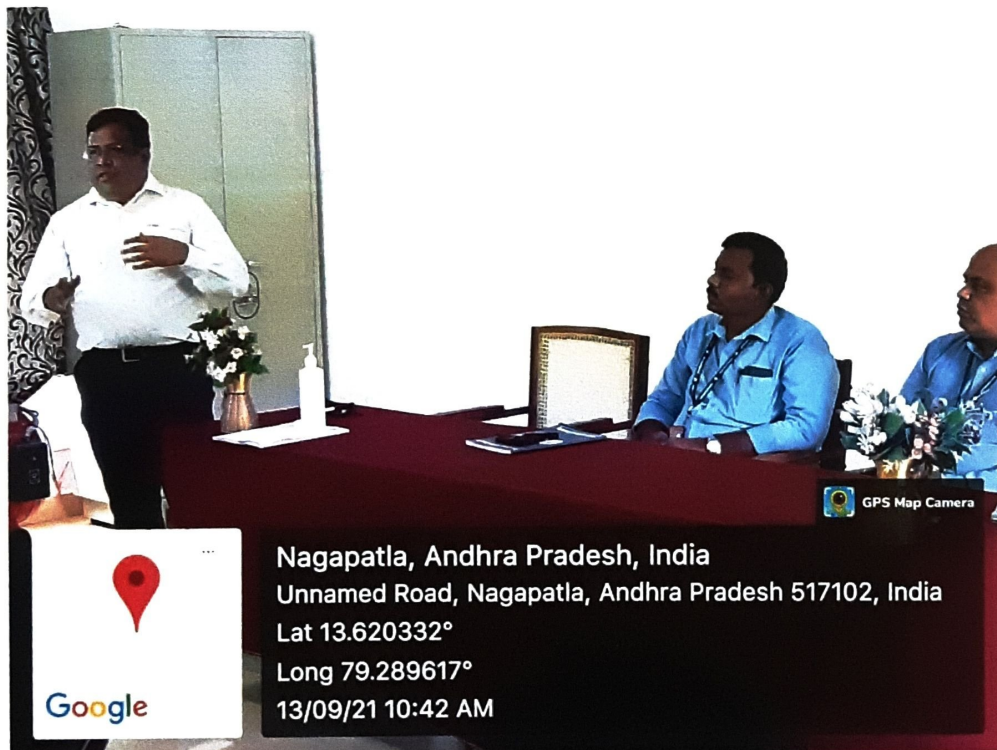


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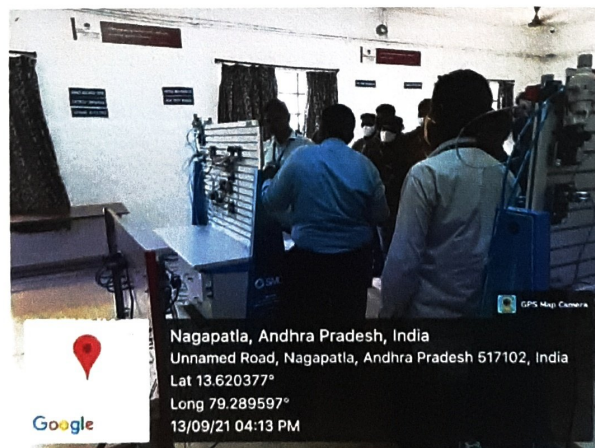
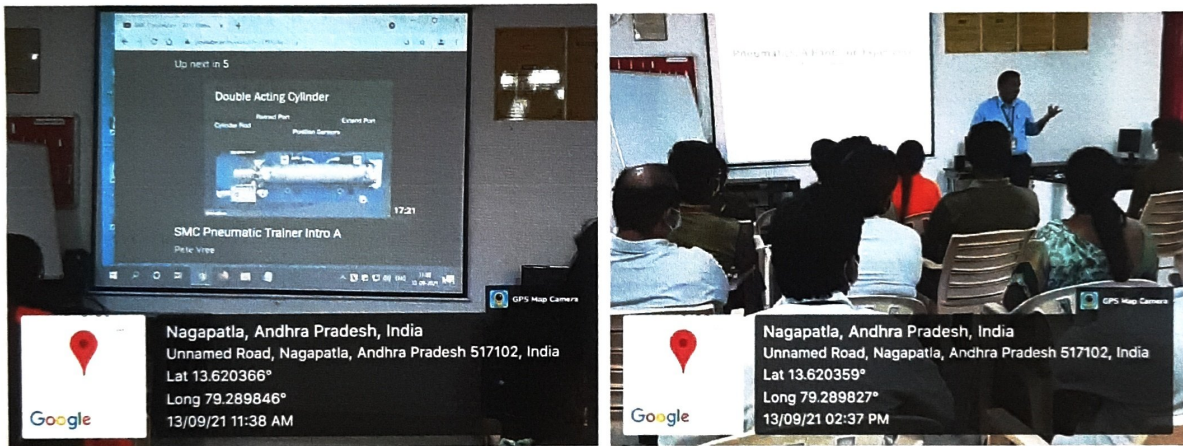
## A Two Day Staff Development Program on Pneumatics: A Hands on Experience

A staff Development Program on "Industrial Pneumatics: A Practical Approach" was organized by the Department of Mechanical Engineering, Sree Vidyanikethan Engineering College, Tirupati, in collaboration with The Institute of Engineers(India)-IEI from 13<sup>th</sup> 14<sup>th</sup> September 2021 in the Seminar Hall of Mechanical Engineering Department, and the hands-on training was given on Industrial Pneumatics and their applications. The resource person was Mr. M.Jagan Kumar, Trainer, and Deputy Area Sales Manager SMC, Chennai and the program was conducted to give a realistic approach in handling the Pneumatic components to the staff members. On the inaugural function, the resource person Mr. Jagan gave introductory remarks on importance of skill development programs for staff members in fostering learning capabilities of students. Dr. K.C Varaprasad , Professor, Department of Mechanical Engineering, mentioned that the program was aimed to familiarize the participants with the design, construction, and operation of pneumatic components. Dr. T. Hariprasad, Professor, and Chairman BOS, Dept. of ME explained the staff members regarding importance of hydraulics and pneumatics in the syllabus, along with its opportunities in Industries.



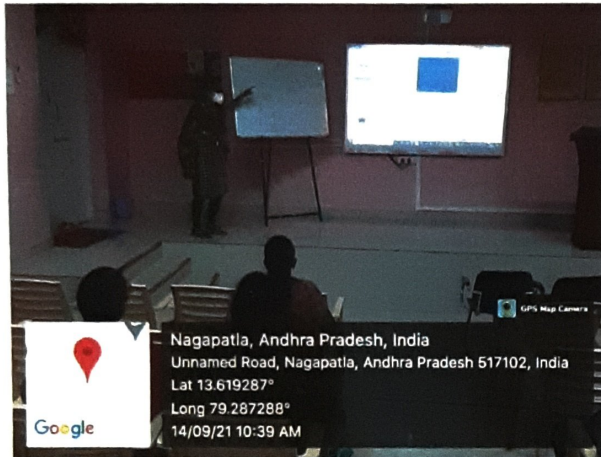
Resource persons interacting in Inaugural function

Further, in Initial of the Program on the first day, Mr. M. Jagan Kumar, resource person, highlighted the importance of interpretation of circuit diagrams and symbols including the construction of control systems. In brief, a *Pneumatic system* is a system that uses compressed air to transmit and control energy. Pneumatic systems are used extensively in various industries. Most pneumatic systems rely on a constant supply of compressed air to make them work. Likewise, other elusive concepts were discussed deliberately on the next two sessions of the day, which was replete with interesting analogies, metaphors and complex industrial befuddlements.



Highlights of Day One of the staff development program on Pneumatics





Resource persons on Day two of the staff development program on Pneumatics

On the Afternoon first session of the program (Day-1), the resource person emphasized the significance of hydraulic, pneumatic & electro-Pneumatic systems and different valves in industrial applications with hands-on training. Eventually, on the Afternoon second session of the program (Day-1), the resource person Dr.K.C Varaprasad, Professor, Dept. of Mechanical Engineering took a session on Pneumatic circuits full of analogies and examples to memorize intricate symbolic representations simply and effectively. This was followed by hands on training.

On the second day of the program, the resource person, Mrs.C. Navya, Assistant professor, Department of Mechanical Engineering, discussed on techniques for coding and identifying different valves for connecting the circuit in an efficient and hassle-free manner. It was an interactive session on direct control valves and their applications. Further, the sessions in succession were held by the Dr. E. Radhakrishnan, Principal, Ammal Polytechnic College, and Chennai. The resource person reiterated the significance of circuit and valve diagrams by highlighting the challenges a learner encounters while conducting experiments and discussed few shortcuts that foster the learners' accountability. Eventually, the last day of the session culminated with an in-depth analysis of the contrast between pneumatic and electro-pneumatic systems, followed by clarification of doubts on the conducted experiments and feedback from participants.

#### Outcomes of the program:

- Develop the ability to select correct components for various applications.
- Read, design, assemble and test basic pneumatic and electro-pneumatic circuits.

- Develop troubleshooting skills to identify component malfunctioning and maintain pneumatic in the primary control system.
- Know the basic principles of compressed air generation, distributions and preparation.
- Understand the process and signal flow of the electrical control section and pneumatic power section.
- Acquire knowledge of the construction and function of electrical switching devices, sensors, pneumatic valves, and solenoid-operated valves.
- Able to analyze and interpret simple pneumatic and electro-pneumatic circuits.
- Able to design, assemble, test, and troubleshoot basic pneumatic and electro-pneumatic circuits.



Participants with Resource persons on Day two of the staff development program on Pneumatics

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